

# small air forces observer

vol. 31 no. 2 (122)  
October 2007

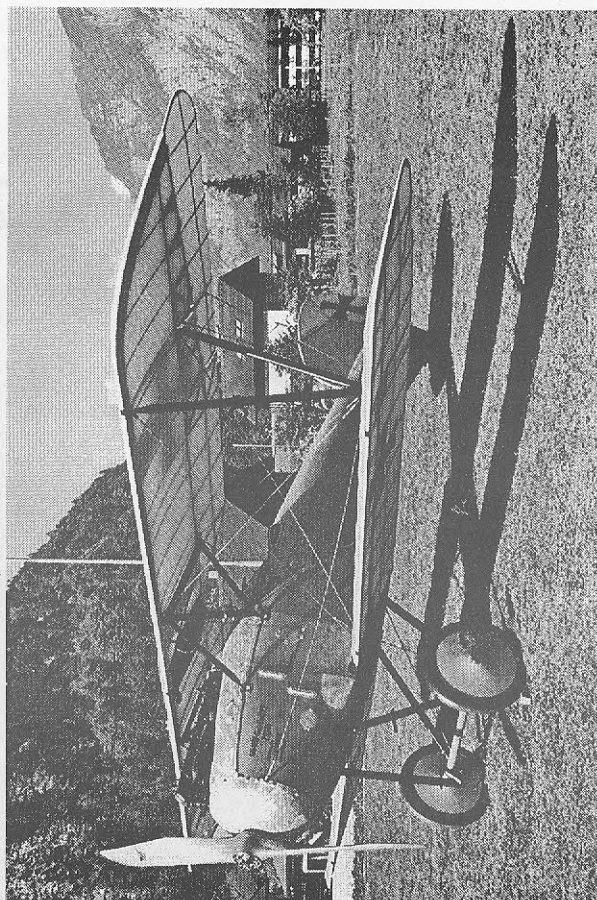
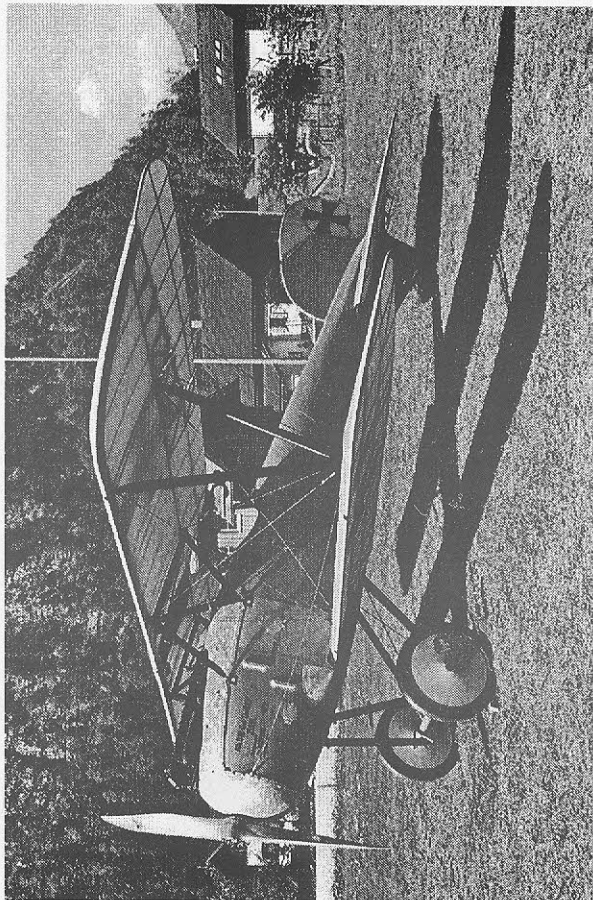
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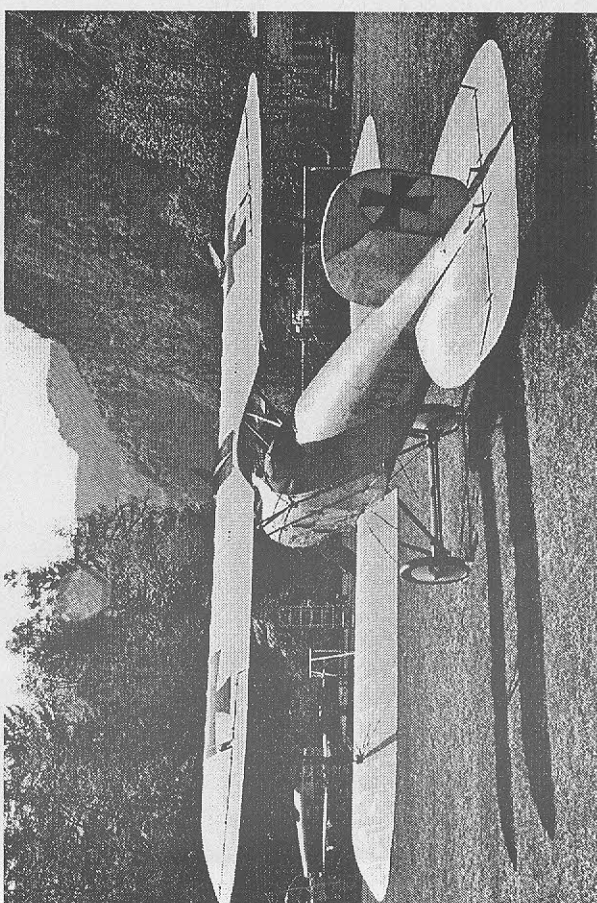
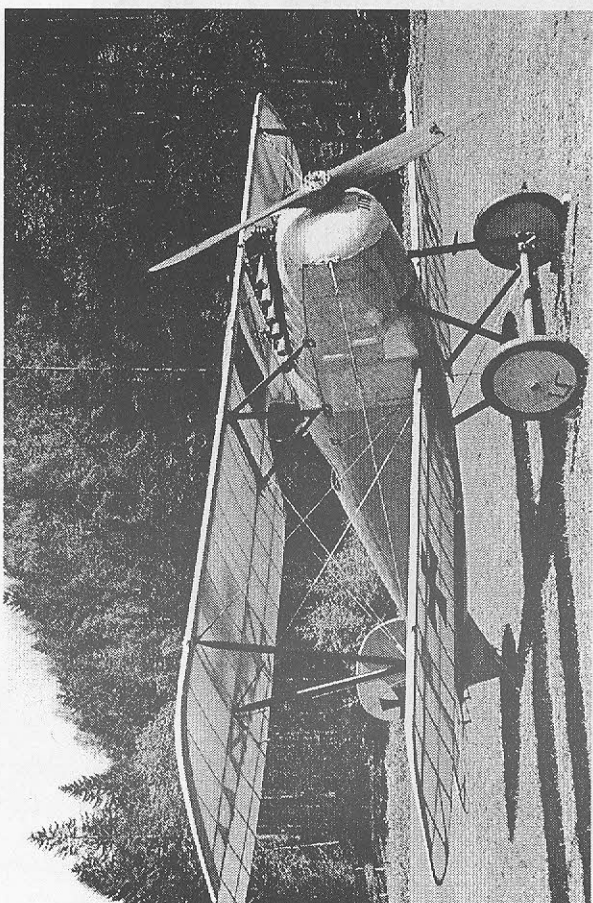
Israeli F-15 (Part 3): The F-15C/D “Akev”  
Katangan T-6 Texans

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See letter from Rudolf Höfling on page 69/70.



Reproduction Albatros D-III (Oef).



# SMALL AIR FORCES OBSERVER

The Journal of the Small Air Forces Clearing House

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**SAFO EDITORIAL POLICY:** The purpose of the Small Air Forces Clearinghouse (SAFCH) is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. The results of this research are published in our quarterly journal, the Small Air Forces Observer (SAFO). Articles published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

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**SAFCH WEBSITES:** Our new website <www.safch.org> is just about ready to take off. On this site you will be able to see, in color, those photos that had to be printed in SAFO in black and white. You will also be able to chat with other members. Also, see our Small Air Force IPMS/USA Special Interest Group (SIG) web site at <http://hometown.aol.com/rotorfrank/SmallAirForce.html> for photos of models by the members.

**COVER PHOTO:** The cover photo for this issue introduces Leif Hellstrom's article on the North American T-6 Harvard used by the Katangan Air Force, aka Aviation Katangaise (Avikat). The caption for this photo reads: "Belgian pilot Roger Bracco on the wing of one of the Harvard IIBs of Avikat. The bomb installation is shown to good effect. Although the serial on the cowling appears to read KA-33, this aircraft was actually KA-32. (Photo: Via Leon Libert)"

**INMEMORIAM:** It is with great sadness that I report the death of Kris Choloniewski of Warsaw Poland. Not only was Kris a great friend and long-time SAFCH member, but he was instrumental to the start of the Small Air Force Clearinghouse. In the late 1960's I volunteered to be the IPMS/USA's "clearinghouse" for information on all air forces not covered by their panel of "experts". In response to a note in the IPMS/USA Quarterly, Kris wrote and offered his help and those of his friends. I soon had so much information on the air forces of Eastern Europe I had to share it with others. Thus was born the Small Air Forces Observer. Kris was a gentleman in the truest sense of the

word. During our visit to Poland, my wife and I stayed in his little three-room apartment while he showed us around all the sights, military and historical, in both Warsaw and Krakow. We will greatly miss Kris. Our condolences go out to Kris's wife Janina and daughter Renata.

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## AUSTRIA

**ÖFH NACHRICHTEN** (Oesterrische Flugzug Historiker, Pfenningeldf 18/2/14, A-1160 Wien. Write for free sample.)

**2/07** (40 pages) "Erfinder und Flugzeugbauer Anton Fiala, Schluss" 3 pages including one photos (Berg D-1 A-36) and 2 side-view drawings of Bauer (Austria) B-1 (A-8 & A-9). Five color photos of the reproduction Albatros D-III (Oef).

## CZECH REPUBLIC

**REVI:** Dvoumesicnik a letadlech a leticich. REVI Publications, PO Box 143, Svojsikova 1588, 708 00 Ostrava-Poruba, Czech Republic. E-mail: [redakce@revi.cz](mailto:redakce@revi.cz). Web site: [www.revi.cz](http://www.revi.cz). Text in Czech and photo captions in Czech and English.

[Ed: Revi is very difficult to review. It's not that it not a good magazine. On the contrary, it a great magazine with lots of color photos and drawings with lengthy captions in English. However, it does have a non-conventional format; articles that go on for issues, photos and color drawings relating to the kit reviews. It's all difficult to unravel if you don't understand Czech. Therefore, I'm going to list only the color drawings and let them suggest the content.]

**#51** (56 pages) Color 3-view drawings of Nungesser's Spad XIII. Three color side-view drawings of Mitsubishi Ki-46 Dinah. Color side-view drawings of a Doolittle B-25 and two intercepting Nakajima Ki-27. Color side-view drawings of Soviet Il-2, Yak-9, P-39, 4 La-7 & Luftwaffe Fw 190. Two color side-view drawings of Italian SM-79.

**#52** (56 pages) Scale drawings and four color side-view drawings of USAF F/TF-102. Three color side-view drawings of Nakajima Ki-84. Color side-view drawings of French MS.406 and RAF Defiant, & Anson. Color side-view drawings of Luftwaffe Bf 110C-4 & Ju 88R-2. Four color side-view drawings of Israeli Mirage IIICJ.

**#53** (56 pages) Color side-view drawing of a captured Ju 87B in Italian RAF roundels added to the Italian markings. Two pages of scale drawings and 4 color side-view drawings of F-102 (3 UAAF & one Turkish TF-102). Four color side-view drawings of Mirage III (3 French & one South African). Four color side-view drawings of Luftwaffe Bf 109D-1. A 3-view color drawings of a RAF Beaufighter & one of a Hotspur glider.

**#54** (56 pages) Color side-view drawing of 2 RAF Spitfire LF IIC (one Czech, one Norwegian) & Fw 190A-8) Color 3-view drawing of Nakajima B6N Tenzan. Color side-view drawing of three Bf 109E-7 and two Hurricane I. Three color side-view drawing of Phoenix D.I. Three color side-view drawing of British Morane Saulnier N

[Ed: These four Revi magazines were sent to the SAFCH in exchange for a subscription to SAFO. To help balance the SAFCH budget, these, and previous issues, are offered for sale through the SAFCH Sales Service for \$4.00 each plus postage. Write or e-mail [saf@redshift](mailto:saf@redshift) for list of available issues.]

## DENMARK

**NYT** (IPMS Denmark, c/o Lars Seifert-Thorsen, Guldregnvej 4, 4600 Koge. 4 issues for 200 DKr). Web: [www.ipms.dk](http://www.ipms.dk) In Danish with a multi-page English summary insert

**#112** (40 pages) "(Ain't) Miss Behavin'" 3 pages on a B-17 that was shot down over Denmark including 3 photos. Nothing of small air force interest except one photo of a 1/48 scale model of a Danish Meteor IV.

**#113** (40 pages) "North American F-107" 5 pages including 9 photos. "Farewell after 55 Years" 2 pages on the last fight of the Canberra including 5 photos. "RDAF Open Doors 2006" 3 page with 11 photos (Polish MiG-29, Swedish SAAB 105, Danish Sea King & Challenger, Czech Mi-24, Spanish F/A-18, Dutch F-16, and German Atlantic & Lynx).

**#114** (40 pages) "Cruzex III" 6 page (in English) including 10 photos (Brazil A-1, T-27 Tucano, EMB-R-99A AWACS, & F-5E; Argentina A-4 Skyhawk & IA-58 Pucara; Venezuela F-16 & Mirage 50; and Uruguay IA-58 Pucara). "Convair F-106 Delta Dart" 4 pages including 5 photos.

**#115** (40 pages) "SAAB Viggen" 7 pages including 3 photos, a 3-view drawing of the complicated color scheme, and side-view drawings of 5 variants. "The First American Aircraft Carrier" 3 pages on the USS Langley including 6 photos. "Turkish Aviation Museum" 3 pages including 9 photos (F-4E, F-84F, F-84G, F-47D, NF-5A, F-102, RT-33, TF-104, & T-33). Color photos: RDAF PBV-6A and Irish Air Corp Spitfire Trainer. [Ed: Although not aviation related, there's a 4 pages article on the Rolls Royce Armored Car that includes 8 photos, a 1/72-scale 5-view, and patterns for scratch building the car in 1/72 scale. The Rolls Royce would make a nice companion to a aviation-themed "Laurence of Arabia" diorama]

## FINLAND

**FINNISH AIR FORCE SIG**, c/o Nils R. Treichel, Gustav-Adolf-Str.16, 27404 Zeven, Germany. Entirely in English.

**No. 25** (10 pages) "Any colour as long as it's red" one page on building the 1/72-scale Top Gun resin kit of the Fairchild 24 in Finnish markings as 'FD-1'; includes a side-view drawing. "Beagle's successor" 3 pages on building the 1/72-scale Rareplane vacuumform of the Lear Jet in Finnish markings ('LJ-2') including port and starboard side-view drawings. "The saga of SK-1" one page on building the 1/72-scale Eduardo Cruz resin kit of the Junkers Junior in Finnish markings including side-view drawing and the comment, "After all the trials and tribulations it is nice to be able to say that in the end an attractive little model results. However it would not be true - after all the effort it still looked crude, so save your money!". Non aviation articles include: "Coastal defence ship *Väinämöinen* in 1/700 scale" and "Finnish Pigs" Humber armored personnel carriers with the UN in Cyprus.

**IPMS-MALLARI** (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs). Text in Finnish.

**2/2007 #166** (24 pages). "LG-3" 3 pages on building the 1/72-scale MC kit of the LaGG-3 in Finnish markings including 6 photos of the model and 3 of the aircraft. "Suomi-Fokker" 2 pages on building the 1.72-scale MPM kit of the Fokker D-21 in Finnish markings including 9 photos of the model. "Model Expo 2007" 12 pages listing all entries in the Finnish Nationals including 90 color photos (Finnish aircraft subjects include Fokker D-21 LaGG-3, Anson, & a trio of Buffalo). [Ed: I also liked the sexy "Snow White"; definitely not Disney.]

## SUOMEN ILMAILUHISTORIALLINEN

**LEHTI** (Pentti Manninen, Jakomaentie 8 b C 300, 00770 Helsinki. Subscription: Europe 26 euro, elsewhere 32 euro, and 41 USD. Payment by International Postal Order or in cash notes; no cheques accepted because of high redemption

rates). Each issue includes a 2-page English summary.

**2/2007** (24 pages) "Brewster NX-15694" a one-page 4-view scale drawings of Brewster 239 c/n 61 (later BW-383) as test flown in US. "DH.100 & DH.115 Vampire in Finland: Part 6" 2 pages on the Vampire Trainer including one photos and a page of sketches from an "instruction" manual. (Strangely enough, the Vampire Trainer was faster than the single-seat Vampire. "FE-2 - The Sole Fokker F.VIIIa with the Finnish AF" 7 pages including 11 photos. "Photographs from the Album of Elias Järvinen" 2 pages including 7 photos. "Motor Alcohol usage by FinnAF 1941-44" 4 pages including 5 photos (Fokker D-21, Brewster 239, Gloster Gauntlet) with a sidebar on 'BW-363: Workhorse of the State Aircraft Factory'. "Viri - The Aircraft of the Finnish Aviation Engineering Society" 3 pages on the Viri, a one-off pre-war light plane designed to replace the DH Moths, including 3 photos and a scale 3-view drawing. "The Aircraft Register of Finnish Air Force and Army during 1927-2007: Part 1" 3 pages including one photos [a line up of all eight Aero A-11AH (AE-41 to -48)] and a table of registrations from AC-26 (P-39Q) to KH-201-203 (AH Industries' NHI 2007).

## FRANCE

**AIR MAGAZINE**, TMA, 75 rue Claude Decaen, 75012 Paris, France. Six issues a year. 35 euros in France, 41 euros in Europe, and 50 euros for the rest of the world. Payment by Visa, Eurocard, Mastercard. E-mail: [airmagazine@wanadoo.fr](mailto:airmagazine@wanadoo.fr).

**No. 37 Avril/Mai 2007** (72 pages) "Les Electra de la Mexicana" 4 pages on the Lockheed twin in civil Mexican service including 12 photos. "Le SE Baroudeur" 12 pages including 19 photos, a 2-page 1/72-scale 5-view drawing, a color 3-view drawings, and 2 color side-view drawings. "Les Polonais a Tours en 1940" 4 pages including 3 photos (Potez 25, Potez 540, and MS 406) and tables of Polish personnel (with photos of 19 Poles). "Le Gladiator in Greece" 18 pages including 18 photos, tables listing RAF Gladiators transferred to Greece in 1940 and 1941, a color 4-view drawings, a color 3-view drawings, and color side-view drawing [Ed: This is an expansion by Sid napier on his article that appeared in SAFO #112, but with more photos and color drawings.]. "Le Caproni Bergamaschi 135 en service au Perou" 9 pages including 11 photos, 3 color side-view drawings, and sketches from a "maintenance" manual. "Actualite Maquettes & Livres" 4 pages of short reviews (21 kits and 16 books).

**AVIONS:** Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 50 euro for 6 issues).

**#158 Juillet/Août 2007** (72 pages) "Août 1945: l'URSS attaque le Japon!" 14 pages including 19 photos, 2 maps, Soviet Order of Battle 10 August 1945 and Japanese ships sunk by Soviets, and 9 color side-view drawings [Il-2T, Pe-2 (2), MBR-2 (2), Be-4, La-7, & PBN-1 (2)]. "Georges Lepage et ses Bloch 152" 5 pages including 6 photos and 4 color side-view drawings. "Un Heinkel 111 pour la Republique Espagnole" 6 pages including 24 photos. "Les grande As de la 14-18: Leon Bourjade et les 'Crocodiles' de la Spa 152" 13 pages including 29 photos. "Les chasseur Avia BH-21" 4 pages including 11 photos. "Guy Lenoir, alias Georges Lents, pilote de chasse a l'Alsace" 7 pages including 16 photos (Caudron 275 Luciole, Tiger Moth, PT-27 Kaydet, Harvard II, Miles Master III, Spitfire LFIX).



## GERMANY

**FLIEGER REVUE EXTRA** (Verlag Fliegerrevue, Herrn Detlef Billig, Oranienkamm 48, D-13469 Berlin. 4 issues per year, \$66 surface. Payment by check drawn on German bank)

#17 Mai 2007 (116 pages) "Der finnisch Fortsetzungskrieg" 26 pages on the Continuation War including 33 photos, 4 maps, and 9 color side-view drawings (Finnish SB-2, MS.406, Hawk 75, DB-3, Hurricane, & Pe-2; Soviet LaGG-3; and Luftwaffe Bf 109G & Fw 190A). "Strahlflug in der Sowjetunion" 16 pages on early Soviet jet aircraft including 44 photos. [Ed: Vacuform kits of many of these early Soviet jets are available from the SAFCH Sales Service.] "Drachenflugel: Die chinesische Militärflugfahrt (Teil I)" 30 pages on Chinese jet aircraft including 59 photos, 3 tables explaining Chinese designations, and 10 color side-view drawings [J-5, J-5A, DF-107, DF-113, Q-5B, H-6I, H-6M, H-8II, & J-9B (2)]. [Ed: This part takes the story up to what I thought were the most recent aircraft. I wonder what is left for part 2.] "Kroatien Luftwaffe: Krieg um die Unabhängigkeit" 24 pages on the Croatian Air Force including 56 photos, 2 maps, 2 tables (abbreviations & a/c lost), and 10 color profiles [An-2 (20, UTVA-75 (3), An-32, Mi-8, & MiG-21 (3)]. "Die 'H-3-Sage': Irakische Hunter gegen Israel" 14 pages including 32 photos, 2 maps, a table listing Iraqi Order of Battle June 1967, and 10 color side-view drawings (An-12, Tu-16, MiG-21F-13, MiG-21FL, Hunter (4), and Dove). [Ed: The Hunters carry 3 distinctly different versions of the Iraqi fin flash.]

**MITTEILUNGEN** (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

1/2007 (46 pages) "Breda 27 M China" 1/2-page review of the 1/72-scale AZmodel kit including one photo of the model. "Hawker Nimrod Mk II" 1/2-page review of the 1/72-scale CMR resin kit including 2 photos of model in Danish markings.

## ITALY

**JP-4 Mensile di Aeronautica** (JP-4, Via XX Settembre 60, 50129 Firenze; L 27.000. English summary of selected articles).

**Luglio 2007** (100 pages) Color photo: Macedonia An-2 'VAM-150'. "Incidenti Militari" 2 pages including 4 photos (Brazil C-95, Canadian Snowbird CT-114, Ecuador A-37B, & Belize Islander).

**Agosto 2007** (100 pages) "Incidenti Militari" one page including 4 photos [Mongolia Mi-8 (front view, no marking visible), Venezuela Mirage 50 FAV-5145, & Ivory Coast Fokker 100 TU-VAA].

## NETHERLANDS

**MODELBOUW IN PLASTIC** (IPMS-Nederland, c/o Luuk Boerman, Kerkstraat 2, 2471 AP Zwammerdam. E-mail: lucasb@normadblend.nl).

2/2007 (40 pages) "Hawker Hunter F.Mk.6" 3 pages on building the 1/32-scale Revell kit in Dutch markings including 8 color photos of the model in various stages of construction. "Junkers Ju-52/3m" 3 pages on building the Revell kit including 9 photos of the completed model in Luftwaffe colors. "Monino" 6 pages with 21 color photos of a/c at the Russian museum. Other articles include: "Char d'Assault Schneider CA.1" and "Viskotter HD80 Elizabeth".

3/2007 (40 pages) "De B-25 Mitchell in dienst van het ML-KNIL: Deel I, Geschiedenis en eenheden" 6 pages including 4 three-view drawings (B-

25C/D, B-25J, B-25K, & B-25C/D Strafer)."Canadese beaver in Nederlands: de DeHavilland DHC-2 Beaver" 5 pages on building the 1/48-scale Habbycraft kit including 9 of the model during construction and completed.

## POLAND

**LOTNICTWO** (Krzysztof Zalewski, ul Grochowska 306/310, pok. 206, 03-840 Warszawa. E-mail: kz@magnum-x.pl.)

3/07 (68 pages) "PC-11: Zupetnie nowy samolot szkolny" 5 pages on new Pilatus trainer including 7 photos and a 5-view scale drawing. "Atlas Cheetah" 6 pages including 11 photos (all SAAF). "Aero India 2007" 10 pages including 23 photos (most intriguing: an Indian AF Tu-142 four-engine turboprop). "Proby sformowania jednostek polskiego lotnictwa morskiego w Wielkiej Brytanii" 4 pages including 4 photos and one color side-view drawings (Wellington XIII). "Zatopienie krazownika Konigsberg" 4 pages on the sinking of the German Light cruiser Königsberg including 5 photos and 2 color side-view drawings (Norwegian He 115 & RN Skua). "Samolot szturmowy Iljuszyn Il-10 (cz.II)" 10 pages including 16 photos, a multi-view scale drawings, and 4 color side-view drawings (Poland, Czechoslovakia, North Korea, & Hungary).

4/07 (68 pages) Color photos: Romanian Puma & C-130H and Kuwaiti AH-64D Apache. "AgustaWestland - linia brytyjska" 7 pages including 14 photos of helicopters from the Dragonfly to the Future Lynx. "Maltanscy rycerze" 4 pages on the Maltese air unit including a table listing of all aircraft as of 2006, and 8 photos (Alouette III, Islander, Bulldog, Hughes NH-369, and Agusta-Bell 47G). "Modernizacja slowackich MiG-29" 8 pages on Slovak MiG-29 including 13 photos and a scale 5-view drawing. "Atlas Cheetah" 6 pages including 12 photos and a scale 6-view drawing (includes variants) "Narodziny lotnictwa morskiego" 8 pages on early seaplanes including 18 photos and 3 color side-view drawings (Voisin canard, Sopwith Schneider, & Curtiss C-3). "Polskie lotnictwo wojskowe w okresie miedzywojennym" 4 pages including 6 photos and 2 color side-view drawings (Ansaldo Balilla & Potez XV). "Dornier Do 217 (cz.I)" 9 pages including 19 photos, a scale 7-view drawing (includes variants), and 4 color side-view drawings.

5/07 (68 pages) Color photo: Austrian Typhoon (7LoWA). "INS Hansa Goa-Dabolim" 5 pages including 9 photos (Indian Sea Harrier, Do 228, Tu 142, Il 38, Karin II, & Chetak). "Boeing F/A-18E/F Block 2 Ultra Hornet" 9 pages including 15 photos. "Lotnictwo morskie w dzialaniach wojennych w latach 1914-1918" 8 pages including 14 photos and 2 color side-view drawings (Austro-Hungarian Lohner L127 & RNS Short 320). "Dornier Do 217 (cz.II)" 6 pages including 16 photos and 3 color side-view drawings (one Italian). "Jozef Mierzejewski (cz.I)" 4 pages including 5 photos and one color side-view drawing (RAF Tiger Moth with Polish chessboard insignia).

6/07 (68 pages) "Su-27 ma trzydziestci lat" 8 pages including 22 photos and a 5-view scale drawing. "Rozwoj lotnictwa wojskowego w Polsce" 7 pages including 6 photos and 6 color side-view drawings [Polish Fokker F-VIIb/3m (2), Potez XXV, Spad 61C1, PSW-A, & PSW-10]. "Mitsubishi J2M Raiden (cz. I)" 10 pages including 21 photos, 10 side-view drawings of variants, and 2 color side-view drawings.

**Numer Specjalny 3** (86 pages) "Krótka historia norweskich Gladiatorów", 5 pages on Norwegian Gloster Gladiators including table listing victories,

9 photos and 2 color profiles. "Śródziemnomorski wypad eskadry" 9 pages table listing 7/JG26's victories, 20 photos, and 3 color profiles [Bf 109E (2) & Hurricane]. "Lockheed P-38 Lightning" 13 pages on early P-38 including 27 photos (many in color), a scale 5-view drawing (P-38E), and 6 color profiles. "Dzieje jednego myśliwca" 8 pages on Polish pilot Adamek including table listing sorties, 14 photos, and 3 color profiles of his Spitfires. "Nakajima Ki-87", 10 pages including 17 photos, two scale 5-view drawings (Ki-87 & Ki-94 II), and 2 color profiles. Also, a small 3-view drawing and 3 photos of the push-pull Ki-94 I. "Bell P-39 Airacobra w ZSRs" 12 pages including 21 photos and 5 color profiles. "Wiroplawy w II wojnie swiatowej" 7 pages on WWII rotary-wing planes (including autogiros) including 26 photos and 6 color profiles (Fa 330, Rotachute Mk 3, Kayaba Ka-1, Cievra (LeO) C.30, Kamov A-7, & Sikorsky YR-4). "Zdalnie kierowane i samonaprowadzające się bomby latające Lotnictwa Cesarskiej Marynarki Japonskiej" 56 pages on Japanese rocket projectiles including table of specifications, 3 photos and 2 scale 3-view drawings (Funryu 2-Go and 4-Go). "Nieznany Suchoj Su-6". 11 pages including 18 photos, 4 side views of variants, and a scale 5-view drawing of Su-6/82 single-seat version.

## USA

**IPMS/USA JOURNAL** (IPMS/USA, PO Box 2475, North Canton, OH 44720-0475 USA. Six issues per year: In USA: \$25 for adults (18 and older) and \$12 for juniors (17 and younger); Canada & Mexico \$30; all other \$32.)

**May/June 2007 Volume 19, Number 03** (74 pages) "Building and Detailing Hasegawa's 1:48 Ju-87B-2/Torp 'Desert Stuka'." "Academy's 1:72 F-8P Inspires More than Aeronavale Gazing."

**July/August 2007 - Volume 19, Number 04.** (74 pages) "Putting a polish on Trumpeter's 1:72 RA-5C Vigilante", "Turning Monogram's 1:48 Liberator into a Privateer with the Cutting Edge conversion", "Finishing Hasegawa's 1:48 P-40 kit as a re-acquired Lend-Lease P-40E".

**SKYWAYS:** The Journal of the Airplane 1920-1940 (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$42.00 USA or \$47.00 overseas.)

**#83 July 2007** (80 pages) "The Curtiss-Wright T-32 Condor II (Part I)" 17 pages including a 2-page color cover painting, 25 photos (including Colombia & Argentina), 2 pages of scale drawings by the late Paul Matt, and 4 color profiles (US Antarctic Service, US Army, Colombia, & US Marines). "Cockpits: Navy Curtiss-Wright R4C-1 Condor II Transport" 2 pages including three photos. "Allen Meyers and the OTW" 14 pages including 19 photos and scale drawings of the Meyers 125 and Kinner R-38 engine. The OTW (*Out to Win*) was one of three types chosen in 1938 for the CPTP (Civilian Pilot Training Program). The other two were the Ryan PT-21/22 and Waco UPF-7. "The Latécoère Flying Boats" 12 pages including 19 photos [Latécoère 21, 38 (2), 300 (2), 521 (9), 522 (2), 611, & 631 (2)] and a color scale 3-view of Latécoère 521. "Tom Towle: The man who designed the Ford tri-motor" 10 pages including 10 photos and a 2-page 5-view drawings of the Towle TA-3 amphibian. "ID UNK (Identification Unknown)" 2 pages including 6 photos. "Reproductions and Restorations" 3 pages including 7 photos (including 3 Italian CA 100). "Models" 2 pages including 3 photos. "Skyways Reviews" 2 pages with reviews of 5 books, one magazine, one movie, and one catalog.

# Peace Fox: The Israeli Air Force McDonnell Douglas F-15 Eagle

## Part 3: The F-15C/D "Akev"

### 106 Tayeset Formed and Combat Continues

As related in "Peace Fox, Part 2" (SAFO #121) the sudden crisis in Lebanon prevented the IDF/AF from creating the second F-15 squadron on schedule. With that situation somewhat stabilized in the days following the "Beka'a Valley Campaign" the Israelis could finally take time to formally establish its second F-15 squadron on June 16, 1982, ten days after the originally planned activation date. The remaining 24 "Peace Fox I" jets (22 F-15As/2 F-15Bs; See Note 1) largely stayed with 133 Tayeset "Double Tail Squadron" and the "Peace Fox II" jets (9 F-15Cs/6 F-15Ds) were used to form 106 Tayeset, the "Spear Head Squadron" under LtCol Yoel Feldsho. (Note 2)

The IDF/AF serial number system assigned separate blocks of identities to each of the groups of aircraft:

Peace Fox I F-15As: 6XX series

Peace Fox I F-15Bs: 7XX series

Peace Fox II F-15Cs: 8XX series

Peace Fox II F-15Ds: 9XX series

Meanwhile Operation "Peace for Galilee" ground to a halt, or at least to a creeping encroachment by the IDF to finally encircle and besiege Beirut. The cease-fire between Israel and Syria and did not include the PLO so the Israelis continued to close upon the Lebanese capital and on June 13 the encirclement was complete. However, like the U.S. in Vietnam, the Soviets in Afghanistan and the U.S. (again, today) in Iraq, the IDF soon found itself in the quagmire of guerilla conflict from which extrication was problematic. Consequently they began a campaign of artillery and air bombardment of PLO targets to persuade the various factions to come to terms. To increase the pressure, Israel instituted a blockade—cutting off water and supplies to the city—on July 3. Thus the successful "Beka'a Valley Campaign" was badly marred by continued Israeli atrocities against the Beirut civilian population. "Collateral damage" was high from IDF barrages and air strikes—phosphorous artillery shells and Mk.20 Rockeye cluster munitions were used—all of which caused mounting civilian deaths, estimated at 15,000 by July 12, the date of the last Israeli air raid. Finally, after a 15-hour bombardment, the PLO and Syrians agreed to withdraw from Beirut on August 1.

In the meantime, in spite of the cease-fire, fighting between the IDF/AF and SyAAF still flared occasionally. Alarmed at the poor showing by its Syrian clients using its fairly standard equipment, the Soviets quickly rearmed the SyAAF with new SA-8 "Gecko" mobile radar-guided and SA-9 "Gaskin" mobile IR-guided SAMs (Note 3). IDF/AF reconnaissance discovered the former arriving in the eastern Beka'a Valley on July 22—losing an RF-4E to an SA-6 in doing so. Two days later the Israelis promptly attacked the new enemy equipment, a formation of Akevs escorting the strikers.

The LtCol Yoel Feldsho (one victory in the F-4E and one with 133 Tayeset) stationed a detachment of his new fighters at Ramat David AB in northern Israel in order to be closer to the action over Beirut and on this day took off in Akev #979 (with Zvi Lipsitz in the back seat), leading Yiftach Shadmi (two victories previously) to cover the strike package. Challenging the Israeli attack, at 1000hours a pair of MiG-23MF Flogger Bs

scrambled from Saikal/Sikel AB, followed a few minutes later by two MiG-21s.

The Floggers were vectored southwest into Lebanon, towards Rayak, and while passing over Baalbek, the Akevs were given vectors and clearance to engage. The two pair of US and Soviet fourth generation fighters approached each other almost head-on. Shadmi spotted the Syrians first and led the F-15s in a curving intercept that placed his Akev 2.4 miles (4km) behind the Floggers and after visually confirming them as enemy, he unleashed an AIM-7F at the trailing MiG. Initially following his wingman in the "conversion turn" Feldsho also acquired the enemy formation and "tightened up" his turn when the MiGs passed, pulling his nose within 45° of the Floggers and fired a Python 3 at only .4 miles (2,400ft). With the shorter range and faster rocket motor, Feldsho's Python arrived before Shadmi's Sparrow and the MiG burst into flames, the AIM-7 flying through the fireball only seconds later.

In Feldsho's rear cockpit, Lipsitz had kept track of the lead MiG and immediately gave his pilot a "snap vector". Feldsho pulled maximum Gs to bring his nose around further and shot another Python at a range of 1.2 miles, 45° "off boresight". In less than 30 seconds from the first missile shot, the second Flogger exploded and fell to the ground northwest of Rayak. (Note 4) Meanwhile, the strike destroyed the SA-8 battery (three vehicles); however, one attacking jet was brought down by ground fire.

The US-brokered "permanent" cease fire was finally signed on August 11, after which the Syrian forces drove out of Beirut and withdrew to northeastern Lebanon where the Syrian army was dug in north and east of Israeli positions in the Beka'a Valley. The PLO departed ten days later, with thousands of "fighters" being sent by ship to the new PLO base established in Tunisia.

Now it was the Syrians' turn to attempt to learn what was going on in Beirut by conducting reconnaissance overflights. Such missions, flown by MiG-25RB Foxbat B high altitude high speed reconnaissance aircraft from SyAAF's 1 Squadron at an-Nasiriya, had been conducted on several occasions in June and July. Flying at Mach 2.5 at 70,000 feet, these aircraft had been untouchable, in spite of several attempts by both Israeli F-15 squadrons to intercept them. However, by combining air defense resources, the IDF/AF prepared a trap for the elusive Foxbat.

Positioning a MIM-23B Improved-Hawk battery atop a ridge south of Beirut, the Israelis hoped to increase the missile's operating height to be able to "reach out and touch" the Foxbat. However, at that altitude the atmosphere is so thin that the small maneuvering fins of any missile have little purchase and miss distances are much larger than at lower altitudes. To back up the I-Hawk, the IDF/AF positioned F-15s outside the missile engagement zone.

On August 31 a SyAAF Foxbat approached Beirut from the east at its usual high altitude and high speed. The IDF I-Hawk battery locked on and fired two missiles at the approaching MiG and was rewarded a few minutes later by a detonation near the target. As anticipated, the missile near missed, but was close enough to damage it. The MiG began trailing smoke and losing



altitude. Waiting for it was Shaul Schwartz (two previous victories) and his wingman. Schwartz (in Akev #821) fired a single AIM-7F that finally destroyed the Foxbat. The wreckage was recovered by the IDF/AF, and Schwartz and the I-Hawk battery were officially given shared credit for the "kill". (Notes 5 and 6)

### Peace Fox III

When the 11 "Peace Fox III" aircraft (9 F-15Cs/2 F-15Ds) began arriving in April 1985 it was definitely time for the IDF/AF to redistribute the airframes, especially the two-seat models. The "Peace Fox III" jets arrived with the following allotment of serial numbers:

Peace Fox III F-15Cs: 5XX series

Peace Fox III F-15Ds: 2XX series

In an effort to balance the two squadrons which at this time had a total of 22 F-15A/18 F-15C single-seaters and 2 F-15Bs/8 F-15D two-seaters, two of the "Peace Fox II" F-15Ds were "permanently" assigned to 133 Tayeset. These were #950 and #955, giving the "Double Tail Squadron" four two-seat models. At this time the two F-15Bs had their serial numbers changed from 7XX-series to a new 4XX-allocation, #704 becoming #404 and #708 becoming #408. Similarly, the unit's new F-15Ds numbers were changed to the 4XX series as well: #950 becoming #450 and #955 becoming #455. (Note 7)

What is more consistent is the fact that 133 Tayeset's primary mission remained air defense/air superiority and 106 Tayeset—because of the increased capabilities of the F-15C/D—was responsible for long-range strike as well as air-to-air. While the "Spear Head Squadron" pilots continued to run up the Israeli F-15 score against Syrian MiGs (Note 8), it would really become renowned for its long-range precision strike capabilities.

The F-15 was originally designed and built with an inherent secondary air-to-ground (A/G) capability but this has often been overlooked since the USAF was never truly interested in using the Eagle in this role. However, during AFDT&E the F-15 had been thoroughly tested to ensure that the automatic A/G delivery modes provided a level of accuracy equivalent to that of a dedicated A/G aircraft. More than 100 multi-carriage bomb loads were released at speeds up to Mach 1.4, and the Eagle demonstrated an average miss distance of only 75ft (25m) when dropping bombs from 10,000ft in a 45° dive. The IDF/AF appreciated this built-in A/G ability and enhanced it by adding US-supplied Data Link pods and the stand-off GBU-15 2,000lb electro-optically (EO) guided glide bomb.

The other thing the IDF/AF appreciated was the increased range, or combat radius, of the F-15C/D with its 1,950lbs of additional fuel carried internally and the ability to mount Conformal Fuel Tanks (CFTs) to the Eagle's flanks, adding another 9,800lbs of fuel. This gave the Akev an unprecedented endurance of 5 hours and 20 minutes, and with air-to-air refueling (AAR), could go almost anywhere in the region on combat missions. (Note 9)

### Operation "Wooden Leg"

These enhanced long-range strike capabilities came in handy when the Israelis felt the need to retaliate against the PLO for their continued terrorist acts. In the three years after Yasser Arafat withdrew the PLO from Lebanon and re-established his HQ at Hamam al-Shatt on the Tunisian coast, just south of

Tunis, terrorist attacks—assassinations, deadly hijackings of airliners and cruise ships, indiscriminate killings and suicide bombings—increased in frequency and intensity throughout the Middle East and Mediterranean regions. The most notorious of these atrocities were perpetrated by the infamous "Force 17" (Note 10), which had moved with Arafat to Tunisia and had its barracks in the PLO HQ compound at Hamam al-Shatt. (Note 11)

On September 25, 1985—three days after PLO launched a rocket attack against settlements in northern Israel—"Force 17" members boarded a yacht anchored at Larnaca, Cyprus, and murdered the three Israelis. Within hours the Israeli Cabinet convened and voted for a retaliatory strike against the PLO. The target was the PLO HQ and "Force 17" barracks in Tunisia and the weapon of choice was the new long-range Akevs of 106 Tayeset.

The raid was led by 106 Tayeset commander (Note 12) and he hand-picked the crews and aircraft for the raid. The ten F-15s (eight primaries and two back-up) were selected based on their maintenance records, only the ones with the best reliability and the fewest numbers of mechanical faults were selected. These included the four two-seat "Peace Fox II" Akevs and the two recently received "Peace Fox III" Akevs. Of the former two were from 133 Tayeset (#450 and #455) and they were part of the first four-ship in the strike package. Additionally "Double Tail Squadron" provided two single-seat Bazs to "flesh out" the second four-ship and the two spares. Thus both squadrons were equally represented by aircraft involved. (Notes 13 and 14)

The two-seaters were each armed with a 2,000lb GBU-15 EO-guided bomb under the left wing, data-link pod on the centerline and an external fuel tank beneath the right wing. For self-defense they carried two AIM-7Fs on the right CFT stations and two AIM-9L Sidewinders on the right wing pylon launchers. (Note 15) They were manned by the 106 Tayeset's most proficient A/G pilots (all were "MiG killers") and EO weapons operators. The PLO compound at Hamam al-Shatt was located on the beachfront where vacationers could be expected to be found so the IDF/AF took every means possible to ensure that only the PLO suffered from the strike.

The single-seat F-15s carried the full air-to-air armament of four AIM-7s and four AIM-9s and thus provided an escort capability should the GBU-carriers be challenged by Egyptian, Libyan or Tunisian fighters. Additionally they carried two external fuel tanks under the wings and on the centerline a Multiple Ejector Rack with six Mk.82 500lb general purpose bombs. These were flown by a "MiG killer" and a young pilot who would become one the next month.

Code named Regel Etz ("Wooden Leg"), the entire operation—a clear violation of Tunisia's sovereignty and international law—was so critical to Israel that the IDF Chief of Staff, General Moshe Levy, attended the pilot's briefing on Sunday, September 29 and instructed the crews to not release their weapons unless they were absolutely sure of getting direct hits. Because of Jewish and Muslim holidays on September 29 and 30, the raid was scheduled for October 1.

At 0800hours that morning ten Akevs took off in two formations of four, with the two spares following immediately thereafter. The formations climbed to medium altitude to remain below the airliner traffic crossing the Mediterranean and the flight route was laid out to avoid Egyptian and Libyan radar coverage—and the U.S. Sixth Fleet!

In fact the greatest challenge for the aircrews was the extreme range involved: it was a 2,560 mile (4,080km) round trip. To facilitate this two new IDF/AF Boeing 707 tankers (Note 16) from 120 Tayeset waited between Crete and Italy. An hour later the F-15s "topped off" their tanks from the KB-707s and headed in for the strike. They were followed at a rather long distance by a single IDF/AF EB-707 command and control aircraft from 134 Tayeset.

While the tankers and two spares turned back for Israel, the strike force split into two four-ships, four minutes apart for the "run-in". During the final weapons check on the run in the number 3 Akev's (#450) EO-guidance system went "off line", limiting the first wave of strikers to three effectives.

From 40,000ft the GBU-15 glide bomb has a 24 mile range, but at this distance, still well out over the Mediterranean, scattered to broken cloud cover threatened to scrub the mission. However, as they got closer, the crews could see that the target area was in the clear and they released three of the 2,000-pounders. While the pilots turned away, the weapons operators (called "navigators" in the IDF/AF) in the rear seats used the TV image (from the camera in the nose of the GBU-15) and joystick (which controlled the guidance fins of the GBU through the data link pod) in their cockpit to home the bombs directly to their impact points. After 90 seconds in flight, all three crews were rewarded with direct hits.

The second wave was less successful. In the first pair, number 5 scored a hit while his wingman's bomb missed. The second pair (two single-seaters carrying "dumb bombs") held back waiting on the mission leader to rejoin on them and lead them to the target. On the run-in, smoke obscured the target somewhat, causing number 7 to abort his delivery while his wingman dropped successfully. Swinging around for another pass and coming in from another direction not hampered by smoke and debris, number 7 finally made a successful drop while the flight leader's weapons operator photographed the smoking ruins of the PLO HQ complex. Egressing the area, the eight F-15s rejoined with the EB 707 command and control aircraft that had followed them half way across the Mediterranean and the large formation winged for home. (Note 17)

At Hamam al-Shatt approximately 90% of the PLO compound was destroyed or badly damaged, including Arafat's offices and the "Force 17" barracks. Some 73 PLO members were killed, including some of the "Force 17" leaders, and another 70 were injured. Yasser Arafat was reportedly "out for a jog" at the time of the attack. (Notes 18)

By 1400hours the eight Akevs were back on the ground at Tel Nof, the BBC having already announced the event while the F-15s were still airborne on their return leg. While denounced by the UN Security Council (the vote as 14-to-0 to condemn the act), U.S. (the Reagan Administration said the attack "cannot be condoned"), Tunisian government and the Muslim world, the IDF/AF had effectively reminded the PLO that they could run, but they could not hide from retribution for their terrorist acts. (Note 19)

#### The Final "Kills" and Israeli Losses

Meanwhile the IDF/AF had continued to fly reconnaissance missions over Lebanon to keep an eye on the Syrian military forces remaining in that war-torn country. For some time these went uncontested, probably because the Israelis began escorting

the RF-4Es with one flight of F-15s to sweep ahead of the reconnaissance birds and a four-ship of F-16s to provide close escort. On the few occasions when the SyAAF would challenge the reconnaissance runs, the MiGs would approach head on, but at 10-15miles the SyAAF GCI would order the Syrian pilots to break off their intercept and they would usually turn tail (with their "Sirena" EW warning gear screaming in their headsets from the Israeli radar lock-ons) and run back to base.

On November 19, 1985, the Israelis switched up the "line up" and put the F-16s out in front with the Akevs from 106 Tayeset covering the rear of the RF-4(s). Leading the mission was F-15 ace and now the squadron commander, LtCol (later BrigGen) Avner Naveh flying Akev 840. On his wing was Yuval Ben-Dor flying Akev 957, with Ofer Paz in his rear cockpit. (Both these aircraft have interesting histories, see Notes 20 and 21)

Once again the SyAAF challenged, launching a pair of MiG-23 Floggers to attempt to intercept the RF-4(s). For some reason these bypassed the F-16s and 15 miles off the nose of their target, they again turned to run. Immediately the two "Spear Head Squadron" jets were vectored to the east to cut off the MiGs and were cleared to engage. As they closed from astern, two AIM-7Fs were fired at the two Floggers, but in the "look down" tail chase mode, they both locked onto the ground instead, forcing the Akevs to switch to Python 3s. At least two were launched and both MiG-23s were destroyed (Note 22), the first by Naveh's first missile. It is uncertain who actually shot down the second MiG, but it is suspected that the squadron commander shot down both and the F-15 ace generously shared the second victory with his wingman. These "kills" gave Naveh a total score of 6.5 victories, making him the highest scoring F-15 ace in history, in any air force.

To date, the IDF/AF claims to have downed 48 enemy aircraft with the F-15, (plus two MiG-21s which hit the ground attempting to elude F-15s on June 9, 1982) all for not a single aircraft lost. (See Appendix Two and Note 23)

While the Syrians have been unable to bring down any Israeli F-15 in combat, beginning in 1987, the IDF/AF suffered a spate of tragic—and mostly fatal—mishaps. On April 1 that year 106 Tayeset Akev #223 (the lead F-15D in "Wooden Leg") crashed after entering a spin. Pilot Yiftach Mor was killed in the accident but his back-seater, Ofer Paz, successfully ejected. In August the next year 133 Tayeset lost two members when squadron commander LtCol Ram Caller's aircraft (Baz 684) collided with wingman Ehud Falk (in Baz 672), killing both pilots.

#### Peace Fox IV and V

To replace these losses, and to further enhance 106 Tayeset's long-range strike capability, in 1988 the Israeli government ordered an additional five F-15Ds (for \$265M) under Project "Peace Fox IV". These were F-15E airframes (the F-15C/D production line had converted to F-15E in 1986) with their cockpits built to D-standard.

Interestingly, the "Peace Fox V" F-15A/Bs actually arrived before the brand new F-15Ds of "Peace Fox IV". Following Operation Desert Storm (the 1991 US-led coalition invasion of Iraq to liberate Kuwait), when the US Government offered the IDF/AF 19 ex-Air National Guard F-15As and six ex-Air Training Command F-15B two-seaters at a discounted price, ostensibly in recognition of Israel's restraint in dealing with



Saddam Hussein's raining 40 Scud missiles on the Jewish nation during that conflict.

These F-15As were base model 1973/1974-build airframes that arrived from November 1991 to July 1992, and their primary contribution was as parts donors and attrition reserve airframes, mainly for 133 Tayeset which was now down to 20 Bazs. (Note 24) By this time the "Spear Head Squadron" was down to 17 Akevs and at least two "new" F-15As (#317 and #361) are known to have been assigned to it. (Note 25)

The reason these jets were used mostly as attrition replacements and reserves is because they were actually older than all the other IDF/AF F-15s except the five pre-production aircraft purchased under "Peace Fox I". This meant, in many cases they had more airframe hours and had suffered more abuse than their younger Israeli cousins. Consequently, the worst cases were used as parts donors for damaged aircraft (such as AF74-0122 [No IDF/AF serial assigned] being used to rebuild #689 which was badly damaged in a takeoff accident in August 1998), ground maintenance trainers (AF73-0093/No IDF/AF serial assigned) at the IDF/AF Technical School in Haifa, donated to the IDF/AF museum (AF73-0098/in the markings of #695) and became the "gate guardian" (AF73-0107/No IDF/AF serial assigned) at Tel Nof AB. For those that entered active service, the "Peace Fox V" aircraft were assigned the following block of serial numbers:

Peace Fox V F-15As: 3XX series

Peace Fox V F-15Bs: 1XX series

Interestingly, in a new development, in many cases the IDF/AF assigned serial numbers using the last two digits of the original USAF serial numbers for F-15As and the last three digits for F-15Bs. For example one of the first four F-15As delivered (on October 23, 1991) under "Peace Fox V" was AF73-0094; it became Baz 394. Since these jets were drawn from the USAF FY73 and FY74 series, some redundancy in "last two digits" occurred. For example there were two "01s", two "07s" and two "93s". In some of these cases only one of the airframes was put into service and the other was never serialized. For example AF73-0093 was used as a maintenance trainer in Haifa, allowing AF74-0093 to assume the Baz 393 identity without competition.

In other cases the second example was given a variation to this theme by changing the first of the "last two digits". This is believed to be the case with the "two 01s" with AF73-0101 (arriving November 1991) becoming Baz 301 and AF74-0101 (arriving July 1992) becoming Baz 361, or vice versa. Also, the only F-15B that did not adopt its USAF "last three digits" as its IDF/AF serial number was AF73-0112 which became Baz 142, but in this case not because it conflicted with another "Peace Fox V" F-15 but because the number "112" was already assigned to one of the "Peace Marble I" F-16A Block 5 jets (100-138 with gaps) received in the early 1980s. (Note 26)

The most prized part of the deliveries were the six two-seat F-15Bs that could be modified into long-range strike assets to supplement the 106 Tayeset's five remaining F-15Ds. Therefore, the six B-models were split between the two squadrons (Note 27). The "Double Tail Squadron" received three to supplement their four F-15B/Ds, primarily in the air-to-air training role, while "Spear Head Squadron" received three to be modified into strike fighters.

Before these deliveries were complete, in May-August 1992 the five special-build "Peace Fox IV" F-15Ds arrived. These

were numbered in the 7XX series (formerly used by 133 Tayeset F-15Bs before they were renumbered in the 4XX series in 1985) and brought 106 Tayeset's long-range strike force to three F-15Bs and 10 F-15Ds—a formidable force that could reach anywhere in the Middle East, from Tunis to Baghdad. However, in addition to losing one F-15C in 1991 (See Appendix Three), the "Double Tail Squadron" soon lost three two-seaters: F-15D #965 in 1995 and two "Peace Fox V" B-models, #137 and #142 in 1997/98. Of the three crashes, only one crew successfully ejected. In an effort to realign the two-seat assets between squadrons, in 1998 Baz 109 was transferred from 133 Tayeset (leaving that unit with six F-15Bs).

Following on the heels of the "Peace Fox V" refurbishment program was the Baz Aircraft Upgrade Program (called Baz AUP or Baz Meshopar/"Improved Baz"). Stemming from IAI's proposed Baz 2000 upgrade, and incorporating many avionics developed by IAI for the stillborn Lavi multi-role aircraft project (cancelled in August 1987), the \$52.5M upgrade to existing IDF/AF F-15A/B/C/Ds sought to bring all of them up to USAF Multi-Stage Improvement Program (MSIP) standards and make them compatible with the recently acquired 25 F-15I Ra'am ("Thunder") equipping 69 Tayeset. (Note 28) This meant installing a new faster and more powerful central computer that would provide the multi-target Track While Scan capability inherent in MSIP, Elbit digital, color Multi-Functional Displays (MFDs) replacing analogue indicators, F-15I-type Hands-on-Stick-and-Throttles (HOTAS) stick and throttle grips, ability to carry and employ the new AIM-120 AMRAAM and Python 4 air-to-air missiles, new ordnance hardpoints and modified existing ones, upgraded EW and communications components and new high bandwidth, high data rate wiring (called MUX cables) to tie it all together. For the F-15B/Ds the rear cockpits were totally redesigned with two color MFDs and HOTAS sticks to allow the back seaters to operate both offensive and defensive systems. When finished the IDF/AF fleet had, for the first time, a standardized cockpit, erasing the differences between the early F-15A/Bs ("Peace Fox I and V") and the latest F-15D ("Peace Fox IV") models. (Note 29)

The upgrade was completed in November 2005 and included all F-15Bs, Cs and Ds and selected F-15As. The selection process was mainly done on age, airframe hours and maintenance history. For example, none of the pre-production (FSD) F-15A airframes were included in the Baz AUP. At least one of these is known to have been retired and probably all of them are by now.

In November 1998 the first Baz AUP jet—"Peace Fox IV" F-15D Baz 706, which had only arrived in Israel six years prior—rolled out of the Tel Nof depot facility. Seven years later, almost to the day, the final Baz AUP jet—"Peace Fox II" F-15D Baz 280—was rolled out and returned to service. With the standardization included in the Baz AUP, it is no longer necessary for the IDF/AF to group the two different versions of F-15s into two distinct squadrons, consequently it will be much more difficult for an observer to track which jet belongs to which squadron.

However, as a starting point, the last known squadron assignment (based on squadron markings in the latest photographs or listing in squadron equipment tables) of Israeli F-15s are (data compiled from Scramble's F-15 Eagle and Aloni's Israeli F-15 Eagle Units in Combat):

Squadron	Serial	Model	USAF Serial	Nickname	Remarks
106 Tayeset "Spear Head Squadron" Total: 28 2 F-15A 2 F-15B 17 F-15C 7 F-15D	109	F-15B	73-0109	The Silver Bolt	
	111	F-15B	73-0111	The Spear Head	
	280	F-15D	83-0063	Exploding Hand	Wooden Leg Participant
	317	F-15A	74-0107	Lion	
	361	F-15A	7X-0101		Most Probably 74-0101
	505	F-15C	83-0054	Pioneer	
	519	F-15C	83-0055	Eitan	
	525	F-15C	83-0056	Hawk	
	530	F-15C	83-0057	Arrow	
	541	F-15C	83-0068	Hook	
	552	F-15C	83-0059	Buzzard	
	560	F-15C	83-0060	Flash	
	575	F-15C	83-0061	Mars	
	583	F-15C	83-0062	Golan	
	701	F-15D	90-0278	The Fire Fox	
	706	F-15D	90-0276	The North Star	1 <sup>st</sup> Baz AUP Aircraft
	715	F-15D	90-0277	Rose of the Winds	
	802	F-15C	80-0122	Panther	4 Kills: 6/9/82, 6/10/82
	810	F-15C	80-0123	Cobra	
	812	F-15C	80-0124	Adder	
	818	F-15C	80-0125	Octopus	.5 Kill: 6/8/82, shared with 832
	828	F-15C	80-0127	Dust	1 Kill: 6/10/82
	832	F-15C	80-0128	6 <sup>th</sup> of June	.5 Kill: 6/8/82, shared with 818
	840	F-15C	80-0129	Commando	3.5 Kills: 6/10/82, 6/11/82 and 11/19/85
	848	F-15C	80-0130	Falcon	2 Kills: 6/10/82
	957	F-15D	80-0133	Sky Blazer	4.5 Kills: 6/8/82, 6/10/82 and 11/19/85; Wingless Landing in May 1983
	970	F-15D	80-0135	Morning Star	Wooden Leg Participant
	979	F-15D	80-0136	Beating Wings	3 Kills: 6/10/82, 6/24/82
133 Tayeset "Double Tail Squadron" Total: 28 20 F-15A 4 F-15B No F-15C 4 F-15D	110	F-15B	73-0110		
	113	F-15B	73-0113	Lone Wolf	
	312	F-15A	unknown		"Peace Fox V" aircraft
	332	F-15A	unknown		"Peace Fox V" aircraft
	387	F-15A	73-0087		
	394	F-15A	73-0094	Viper	
	404	F-15B	77-1524	Arrow from Bow	ex-704; 2 Kills as 704: 6/27/79 and 6/11/82
	408	F-15B	77-1525	Chariot of Fire	Ex-708; 1 Kill as 708: 6/10/82
	450	F-15D	80-0131	Sharp Sword	ex-950; Wooden Leg
	455	F-15D	80-0132	Stormy Wind	ex-955; 1 Kill as 955: 6/10/82; Wooden Leg



455	F-15D	80-0132	Stormy Wind	ex-955; 1 Kill as 955: 6/10/82; Wooden Leg
654	F-15A	76-1505	Hurricane	
658	F-15A	76-1506	Typhoon	2 Kills: 6/7/82, 6/9/82
661	F-15A	76-1507	Hamsin	
663	F-15A	76-1508	The Lighter	1 <sup>st</sup> Kill: 6/27/79
667	F-15A	76-1509	Cyclone	1 Kill: 6/10/82
669	F-15A	76-1510	Lahak	New Fwd Fuselage*
673	F-15A	76-1512	The Sting	1 Kill: 7/29/81
678	F-15A	76-1514	The Shooter	2 Kills: 6/11/82
681	F-15A	76-1515	The Spear	
686	F-15A	77-1517	The Hot One	2 Kills: 6/8/82, 6/9/82
689	F-15A	77-1518	Boomerang/Lark	1 Kill: 6/27/79
692	F-15A	77-1520	Galaxy	1 Kill: 9/24/79
693	F-15A	77-1519	Flash	
695	F-15A	77-1521	The Star	4 Kills: 9/24/79, 12/31/80 and 6/9/82
696	F-15A	77-1522	Firecracker	1 Kill: 8/24/80
698	F-15A	77-1523	Possibly: Comet	
714	F-15D	90-0279	Golden Vulture	Used by Flt Test Ctr
733	F-15D	90-0275	King's Messenger	

\* More than likely an unserialized "Peace Fox V" F-15A provided the forward fuselage for this repair. The damaged forward fuselage of #669 has been positively identified by its manufacturer's plate in the dump at the IDF/AF Museum at Hatzerim.

It is with these aircraft, and the brave men who fly them, that will be ready, willing and extremely able to defend their homeland, from neighboring threats and terrorists alike, for many years to come.

Author's Note: The "Peace Fox" series of articles are expanded from the research that was done to write the book *F-15 Eagle Engaged!* co-authored with Steve Davies, a noted British aviation journalist and photographer, and expert on the F-15E. One chapter of the book details Foreign Military Sales of the F-15A/B/C/D to Israel, Saudi Arabia and Japan. For those

interested in the other two "small nations" that fly the F-15, or would like to learn more about the history of this fantastic fighter, the book will be published by Osprey this month.

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[Editor's Note: Part 5 of this series will appear in the next issue of SAFO. It will consist of the appendices and profile drawings.]

## End Notes

1. The IDF/AF is known to have lost one F-15A Baz 676 in a landing accident at Tel Nof AB on September 29, 1979. Reportedly a second Baz was lost due to "birdstrikes" in August 1981 (unconfirmed by Israeli sources) and one source reports that pre-production F-15A "F-18"/AF72-0120 (serialized #649) was supplied to Israel the following year. If the latter happened—or if neither part actually happened—then the IDF/AF F-15A inventory would be reduced by one from the original purchase of 23 F-15As and two F-15Bs.

2. There is of course some likelihood that some "Peace Fox I" F-15As were temporarily attached to 106 Tayeset to even out the overall strength of the two units. Also please note that the red "spearhead" wedges applied to the inside of 106 Tayeset F-15's vertical stabilizers (depicted in SAFO #121, page 14) were not applied until 1991. Before that date "Spear Head Squadron" jets were distinguished by having no particular unit markings (other than squadron emblem on the outsides of the

vertical stabilizers) while 133 Tayeset "Double Tail Squadron" has always had the "baby eagle head" (depicted in SAFO #120, page 120) in the black band on the inside of the vertical tails of their aircraft.

3. The SA-8 "Gecko" was a low altitude, short range (7.5mi/12km) radar-guided missile mounted on a highly mobile 6x6 BAZ-5937 amphibious vehicle. It had the advantage over the older SA-6 in that the "Land Roll" radar was mounted atop the vehicle above the (four or six) launch rails/boxes, making each vehicle capable of autonomous operations. The SA-9 "Gaskin" low-altitude, short-range (4.0mi/6.5km) IR-guided SAM mounted on a 4x4 BRDM-2 amphibious vehicle. These were supplied to Syrian units (principally the 85<sup>th</sup> Brigade) in Beirut by Soviet vessels docking and unloading there and were used (as seen on TV broadcasts from the embattled city) before, during and after the Israeli Lebanese War. The SA-8s were

supplied to Syria following the dismal performance of the SA-6 against IDF/AF targets.

4. The account of this engagement—as well as all others in this article—are from Aloni's Israeli F-15 Eagle Units in Combat, in this case page 62, 63.

5. Aloni, pages 63, 64.

6. The last air-to-air engagement in this period was on 9 October and the SyAAF had more success on this occasion. On this date two MiG-23 Floggers were vectored to intercept a single RF-4E and two MiG-21MFs accompanied them in order to engage the escorting F-15s and "tie them up" while the Floggers "finished off" the RF-4E. The Phantom was reportedly shot down and the Syrian fighters escaped unharmed in what was the swansong of the Fishbed in combat by the Syrian air force. See Cooper and Nicoli's Arab MiG-19 and MiG-21 Units in Combat, page 77.

7. In real life operations, aircraft assignments to units are rarely truly

permanent and the 4XX-series two-seaters, as well as some 6XX-series F-15As, may have spent time in the other squadron, so the "tail numbers" should not be taken as absolutes for squadron assignment.

8. It should be remembered that the new Akevs and the F-15C/D-trained pilots slated to make up the new 106 Tayeset "Spear Head Squadron" obtained 17 of the 31 aerial victories attributed to F-15s during Operation "Peace for Galilee". But because they were still wearing the "Double Tail Squadron" patch, the kills went on the record of 133 Tayeset.

9. As stated in "Peace Fox, Part 1", the IDF/AF so appreciated the enhanced range provided by CFTs that they had earlier modified their Bazs with CFT attach points and revised fuel and pneumatics plumbing and electrical connections to permit carriage of CFTs. The IDF/AF is the only operator of the F-15A/B to have undertaken such modifications.

10. "Force 17" began its existence as the PLO chairman's personal guard, but become increasingly involved in PLO terrorist operations.

11. The compound included Arafat's personal offices, those of his senior advisors, the offices and barracks of "Force 17", and the PLO operations, communications and public relations offices and their staffs.

12. For obvious reasons pertaining to the individual's and his family's security and safety the IDF/AF is reluctant to provide the name of the 106 Tayeset commander at this time.

13. From the photographic evidence and comments in Aloni's Israeli F-15 Units book, the aircraft known to have participated in Operation "Wooden Leg" include:

- #1 Akev 223
- #2 Akev 280
- #3 Akev 450
- #4 Akev 455

#5 through #8 and the two spares are unknown

14. Why two F-15As were chosen for this long-range mission when at least twelve much longer ranged and more capable F-15Cs were available is unknown. While this may have been done to ensure both squadrons were equally represented on the raid, it also may be another case of Israeli Censorship Bureau disinformation included in Aloni's Israeli F-15 Eagle Units in Combat, and actually newer and longer-ranged F-15Cs were really used. Regardless of the "balance" of aircraft provided by the two squadrons, it is evident that all (or almost all) the aircrew members were from 106 Tayeset.

15. No air-to-air ordnance was carried on the left side due to the fact that the large size of the GBU-15 interfered with AAM employment. AIM-9Ls were carried instead of the preferred and somewhat more effective Python 3 or 4 because they were smaller and

offered less drag and thus less fuel burned than the larger diameter Pythons. As other combats have proven, the AIM-9L was more than sufficient to deal with any MiGs the Tunisian AF could have launched to challenge the attack.

16. The first IAI-converted Boeing "KB 707" entered service with 120 Tayeset in 1983, followed by six others.

17. The account of this raid is taken from Aloni, pages 67-69, corrected as is known.

18. The PLO claimed that 15 of the fatalities were innocent civilians.

19. This is a capability that the IDF/AF values as a deterrent against terrorism and continues to regularly practice large formation long range strike missions even today. As recently as 5 February 2007 (according to our friends in the Dutch Aviation Society, see Scramble No. 334, page 96) the Greek air force, having spotted on radar large formations approaching Crete and Karpathos from the southeast, scrambled four F-16s from Souda AB, Crete. They found a force of about 20 fighters, five tankers and a Gulfstream (command and control aircraft?) in close formation. The Israeli force turned due west, avoiding Greek airspace. Other sources report these missions range as far west as Malta before turning back.

20. Akev 840 is the famous "Commando", long thought to be the highest scoring F-15 in the IDF/AF inventory. Originally adorned with six Syrian "kill markings" (from the somewhat inflated victory totals initially coming out of the "Beka'a Valley Campaign"), after a IDF History Branch review in late 2001 of all the F-15 aerial engagements and "kill claims", it is now known that Akev 840 was previously used in the destruction of a SyAAF MiG-23 (by Benny Zinker) on June 10, 1982, and a MiG-21 (by Yiftach Shadmi) the following day. With Naveh's 1.5 victories on November 19, 1985, its total "kills" is 3.5.

21. Akev 957 achieved great notoriety in the famous mid-air collision that resulted in the loss of the whole right wing, yet the aircraft was able to be recovered safely to base. In May 1983, on a Dissimilar Air Combat Training mission against IDF/AF A-4s, Ziv Nadivi (one victory) accidentally hit a Skyhawk that had disappeared under his nose, shearing off the right wing of the F-15 (the A-4 was destroyed in the impact and the pilot killed). Regaining control of the Akev, Nadivi was able to get the gear down and by maintaining a very high airspeed, able to land Ramon David AB, ripping off the arrestor hook and rolling off the end of the runway. Nevertheless, the aircraft had been safely recovered and after being transported back to Tel Nof, was fully repaired with a new wing and back in the air in less than three months. By the time this mishap occurred, the jet had been to obtain four "kills"—one by Shaul Schwartz on June 8, 1982, and three by Avner

Naveh two days later. Yuval Ben-Dor's shared victory brought this "miracle jet's" tally to 4.5.

22. Aloni, pages 69, 70.

23. The Syrians claim F-15s shot down on three occasions: one on 29 June 1981 by a MiG-25PD using a Bisnovat R-40R (AA-6 "Acrid") radar-guided missile, one on 3 July 1982 by a MiG-21bis, and the other on 4 (or 24?) December 1983 by a MiG-23ML. In the latter two cases the type of weapon used is unspecified. These aerial victory claims are from "Syrian Air-to-Air Victories since 1948", dated September 25, 2003, as published by the Air Combat Information Group (ACIG) Team (headed by Tom Cooper), on the ACIG website: [http://www.acig.org/artman/publish/printer\\_272.shtml](http://www.acig.org/artman/publish/printer_272.shtml). They are listed as "Unconfirmed" and in any event, highly unlikely.

24. The arrival of these aircraft reportedly allowed the formation at Tel Nof of the 148 Tayeset, into which at least one source reports the five "Peace Fox IV" F-15Ds were moved. However, there is no evidence of the existence of this as an operating unit. More likely, if it exists at all, 148 Tayeset is simply a "holding" or "storage" (called a "reserve" unit in IDF/AF) most likely for attrition reserves of F-15As. Likewise the "Peace Fox IV" F-15Ds were at one time reported to be on strength with 144/149(R) Tayeset based at Hatzor. However, these unit designations are for the last IAI Kfir unit(s): 144 being the last operators of the type and 149 being a reserve—actually a storage—designation. Most air forces, the USAF included, uses "reserve squadrons" to designate groups of air and ground crews to operate specific types of aircraft assigned to other/"active" units. The IDF/AF on the other hand assigns these designations to groups of aircraft placed in storage, or reserve, (usually numbered in the 140-series) that can be drawn upon in case of national emergency. By doing so, it provides disinformation to mislead adversary intelligence agencies—and many international aviation publications—into believing there are more units of a particular type aircraft than is actually on strength. In this case, many publications claim that the IDF/AF Air Order of Battle includes three F-15A/C squadrons when, in fact, it does not.

25. In fact, it appears that only six "Peace Fox V" F-15As are known to have been brought into the active IDF/AF inventory. Initially four of these went to 133 Tayeset to replace the oldest (FMS/pre-production) F-15As and two to 106 Tayeset. Additionally, two are known to have been cannibalized to rebuild other jets, one went to the IDF/AF museum, one to be the Tel Nof gate guardian and at least one became a maintenance trainer. This leaves up to eight "Peace Fox V" F-15As in storage/used as spares. Recent correspondence with Scramble indicates the



following aircraft are stored at Ovda AB: 301/AF73-0101, 312/AF74-0122, 314/USAF Serial unknown, and IAF Serial unknown/AF74-0126.

26. This "Peace Fox V" serial number discussion describes the relationships after the final decisions were made and the 3XX F-15As/1XX F-15Bs arrangements began to be used. Initially—for expediency's sake—the aircraft, which arrived in large numbers in a relatively short period of time (25 jets in nine months), were simply put into storage with the "AF73" and "AF74" parts of their tail numbers oversprayed with gray paint, leaving only the USAF "last three digit" code numbers—in their original dark gray paint and stenciling—visible. It is evident that the IDF/AF desired to use the existing numbers as much as possible, but obviously conflicts (two jets having the same "last three digits") existed. In order to become operational, the old American Eagles had to be refurbished to IDF/AF standards with Israeli radios, avionics, EW suites and weapons-related equipment (Python, Popeye and GBU-15 avionics and wiring) to become Israeli Bazs. Because of the IDF/AF's affinity for the two-seat F-15B as a strike fighter, these were refurbished first, the first of which (AF73-0109/Baz 109) rolled out of the Tel Nof depot facility in 1993, followed by the other five F-15Bs. When aircraft completed refurbishment and became operational they were finally

assigned their "real" codes as described, with the numbering done in black using Israeli (fatter/flatter numerals) stenciling. Those that went from storage to other uses, such as maintenance trainers, museum exhibits and the Tel Nof gate guard never truly wore an IDF/AF serial number, just the last three digits of their original USAF serial. Thus even though AF73-0093 was one of the first deliveries (October 21, 1991), AF74-0093 (arriving July 29, 1992) is believed to have gone through the Israeli modification first and upon becoming operational was given the serial "393", while AF73-0093 was relegated to the Haifa maintenance training facility (without markings) and never entered operational service. Some F-15As remain in storage—as recently as June 2003 it was reported by Scramble, the Dutch Aviation Society, that AF74-0126 (IDF/AF serial, if any, is not known) was still being stored at Ovda AB. Finally, it must also be recognized that this serial number "system" was not comprehensive. For example known IDF/AF operational F-15As with no correlation to their original USAF serials are: 312, 332, and 361. While #361 is most probably AF74-0101, other unaccounted for USAF serial numbers for possible "tie ups" include 73-0102, 74-0093/097/125 and 75-0053. Of course some of these could be tied to the stored F-15As listed at the end of Note 25.

27. The split-up was that 73-111/112/137 went to 106 Tayeset and 73-0109/110/113 went to 133 Tayeset.

28. The F-15I is a dedicated A/G fighter-bomber, the Israeli version of the F-15E Strike Eagle, numbered in the 2XX-series. Twenty-five were ordered in January 1994 and delivered from January 1998 through September 1999. Because they are not a "Peace Fox" delivery and they have not (yet) seen combat, they are beyond the scope of this article and will not be addressed. The 20 fighters mentioned in Note 19 above were most probably IDF/AF F-15Is.

29. Although the F-15As and Cs—and the F-15Bs and Ds—are virtually identical externally, enormous differences existed between models. In fact there were even significant variations between the "Peace Fox II" jets (F-15C/D Blocks 27/28/29) and those of "Peace Fox III" (F-15C/D Blocks 35/36), some requiring internal modification of the avionics "racks" to ensure standardization throughout the fleet to house the new AUP "black boxes". One result of the extensive modification to standardized aircraft program was that all of the aircraft having come through the Baz AUP became known as Bazs. This is reflected in Schlomo Aloni's book in that even Akevs of the 1980s are referred to as "Bazs" now.

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# Katangan T-6 Texans

Leif Hellström

The Katangese Air Force, usually known as Avikat (short for Aviation Katangaise), was created in August 1960, following the secession of Katanga province from the rest of the Congo. Aircraft and personnel initially came from the former Belgian forces in the Congo. Beginning in early 1961, the Avikat gradually changed into a more mixed, mercenary organization. At the same time Katanga began looking for weapons and equipment on the open market and before long offers for all sorts of aircraft were pouring in from more or less shady companies in Europe. One of the earliest ones came from a firm in Geneva, Switzerland, called Wasim S.A., which on 3 April 1961 offered four Harvard IIAs and four IIBs in "excellent condition" at 4,000 US Dollars each. There was no indication of the source of the aircraft. The offer was not taken up.

During the first two years of its existence, the Avikat was instead to rely on the de Havilland Doves as its prime "combat" aircraft. Several of the Doves were fitted with home-made bomb racks in their cabins and were used as level bombers. Some of its other aircraft, such as the Piper Tri-Pacers; also saw use as make-shift "bombers", dropping hand grenades in beer glasses. One of Avikat's three Fouga Magisters also had a spectacular, if brief, career as an attack aircraft, during the fighting with the UN in September 1961.

It is not surprising that the T-6 was considered by the Avikat at an early stage. Most of the pilots serving with the Avikat had flown the T-6 at some point in their earlier military careers, whether with the Belgian Air Force, the RAF or the SAAF. It was an uncomplicated and reliable aircraft type with adequate performance. The T-6 had by this time been used as a light attack aircraft in a number of smaller wars around the world and had proved reasonably suitable in the role. It could be armed with either machine guns, rockets or bombs.

According to some published accounts, the Avikat received six or even twelve T-6s from the Belgians in 1960, soon after Katangese independence. This is not true.

It is a fact, however, that from 1953 the Belgian Air Force had operated a large number of T-6 with its Advanced Flying School at the Kamina air base, which was located in Katanga province. The decision had been taken to replace these by Fouga Magisters from the autumn of 1960 but this conversion was never completed, even if several Magisters had arrived by mid 1960. A total of 16 Texans, all of them US-built T-6Cs and T-6Ds, were converted into light attack aircraft by the Belgian Air Force just before independence, to be ready in case of unrest in the Congo. These aircraft were divided into four separate flights and saw considerable action during July 1960, following independence. Three aircraft were lost. The survivors were all flown to Ruanda-Urundi which was still under Belgian control and continued to serve there with the Belgian Air Force.

Another 20 or so T-6s – most of them actually Harvard IVs – were still in use as trainers at Kamina when the Belgians were forced to hand over the base to the United Nations in October 1960. These were put into storage by the UN until 14 March 1961, when the aircraft were demolished with the help of an excavator. The remains were bought by a local scrap dealer and taken to a yard in nearby Kaminaville. This means that practically all Belgian T-6s in the Congo are accounted for, one way or another.

United Nations sources as well as former Avikat personnel all confirm that the Avikat did not receive any T-6s in 1960. Some of the Belgians serving with the Avikat did plan to steal three of the T-6s at Kamina, however. The idea was to have Belgian accomplices put the aircraft on a train to South Africa or North Rhodesia, officially for evacuation back to Belgium. The train would then be intercepted at a suitable point before the border by an Avikat helicopter which would force the train driver to stop. The flaw in the plan was of course how to get the planes off the train and to a suitable airfield. In the end, the scheme came to nothing.

As a result of the clashes with the UN, the Avikat lost most of its aircraft fleet during the last few months of 1961. By New Year, Avikat could only muster a total of six aircraft: two Doves, two Dornier 28As and two light Piper aircraft. Three additional Pipers were delivered soon afterwards. Avikat was by this time a purely mercenary unit and had moved its main base from the Katangan capital Elisabethville, where the UN had a large presence, to the mining town of Kolwezi, some 250 km away. This meant that the UN had much less direct insight than previously into the activities of the Avikat, which instead became one of the major targets of UN military intelligence.

The intelligence sources available to the UN were of varying quality, to put it mildly, and consequently a stream of wild rumours about Avikat procurements soon began pouring in. At one time or another from late 1961 onward, the UN suspected the Avikat of receiving or trying to buy, among other types, Dassault Mystères, de Havilland Vampire FB.52s, Supermarine Spitfire F.IXs, Douglas B-26s and North American B-25s, as well as additional de Havilland Doves and some Herons. Except for the Spitfires, which actually were on their way to Katanga when impounded in France, none of these reputed deals came to anything, if they even existed.

The UN discovered four railway cars with aircraft parts in Elisabethville in October 1961. The load included some T-6 parts and there was a fear that this was part of a bigger consignment being smuggled into Katanga. In the end it turned out to be a load of spare parts the Belgians had tried shipping out when they were leaving the Congo, but which had been sidetracked due to problems in the rail network. The same spare parts were "discovered" again several times by the UN in 1962 and 1963 in an almost farcical manner, each time leading to a minor panic.

The UN were receiving persistent reports of imminent deliveries of T-6 aircraft to the Avikat. An intelligence summary from February 1962 mentioned that 40 T-6s were expected, "each equipped with 40 French rockets". These were later said to have been offered to Katanga at a cost of US\$ 27,000 each. It was also claimed there were plans to station a Katangese squadron of two Fouga Magisters and four T-6s in Tchad, which makes little sense since Tchad does not share a border with the Congo. In March 1962 there was a report of eight Katangan T-6s with French air-to-ground rockets at an undisclosed location in Angola. In April, the UN claimed to have stopped a delivery of T-6s (and one B-25) from Argentina to Katanga, via Belgium.

During the spring of 1962 there were also several reports that Katanga were in the process of obtaining a considerable number of T-6s (anything from six to 40 being mentioned) through the South African company PLACO or as surplus



from the South African Air Force. Although the SAAF did have considerable numbers of T-6s, none were in fact discarded until many years later and there is no real evidence that South Africa ever considered providing any of them to Katanga.

One group of T-6s which was in fact almost procured by Katanga were the six T-6s of the Belgian Air Force in Ruanda-Urundi. These were the survivors of the aircraft that had been transferred out of the Congo in 1960. Since Ruanda-Urundi was now on the verge of becoming independent, as the two states of Rwanda and Burundi, the Belgians were divesting themselves of these, the last T-6s in Belgian service. On 27 March 1962, Katanga expressed an interest in buying the six T-6s together with maintenance equipment. News of this interest did reach the ears of the United Nations, however, and to prevent the aircraft falling into Katangan hands the UN helped arrange for them to be procured by the Congolese government instead. To ensure that the deal was completed, the aircraft were even flown to the Congo by Swedish UN pilots, in August 1962, where they were incorporated into the Congolese Air Force.

Despite all these failed deals, there was little question that Katanga was preparing to rebuild its air force and that she was preparing for war. UN aerial reconnaissance in April and May 1962 showed that the main airfields at Kolwezi and Jadotville were being extended and resurfaced and that several new airstrips were being constructed around Katanga. In addition, several deep aircraft shelters were being dug at Kolwezi, each one estimated to be able to shelter two T-6s or one Dove.

The Avikat and the UN had both belatedly also discovered the T-6s in the scrap yard at Kaminaville. Although close to the UN controlled Kamina air base, the yard was in an area under Katangan control. One Avikat pilot, Jimmy Hedges, wrote in his diary on 18 June 1962 that two T-6s were at Kaminaville in boxes, presumably indicating that parts for two complete aircraft had been collected and prepared for shipment. Some three weeks later the UN photographed the yard from the air but concluded that the twelve or so T-6s there could not be made serviceable. The fate of the two supposedly boxed T-6s is unknown but at any rate they never saw service with the Avikat.

Another UN report claimed that ten T-6s (again "with 40 French rockets") were due to be flown from Geneva to Lisbon on 7 March 1962, for onward shipment by sea. The British Foreign Office the following month also claimed to have had several reports of T-6s being bought in Western Europe, flown to Portugal and then shipped to Angola. The British considered most of the Katangan aircraft deals to be a waste of time and effort but admitted that the T-6s seemed "a relatively sensible purchase". This time the UN (and the British) were actually on to something since this deal would eventually provide the Avikat with T-6s.

The aircraft in question had all been retired from the Belgian Air Force some time previously and purchased by the Belgian COGEA company. They were a mix of versions, consisting of one T-6A, seven T-6Cs and two Canadian-built Harvard IIBs. COGEA re-sold the T-6s to Frenchman Pierre Laureys, who never appeared as official owner, however. Laureys was a former Free French Spitfire pilot who was also involved (together with COGEA) in the aborted deal to sell Spitfires to Katanga. The ten T-6s were entered on the Belgian civil register in January 1962 and at the same time Laureys also began recruiting pilots to fly the aircraft in Katanga. He turned to Jean Zumbach, also a former Spitfire pilot of WWII and an acquaintance of Laureys'.

Little is known about the details of the deal except what is contained in Zumbach's book "On Wings of War". Unfortunately, the account he provides is quite unreliable and constantly plays up Zumbach's own role in the events. He claims that he was approached by Laureys (called "Folloreys" in his book) in January 1962, which fits with the registration date of the aircraft. Zumbach travelled to Geneva, where he claims he met with Katangan president Tshombe and was offered a contract at US\$ 3,000 a month to recruit personnel for the Avikat and to lead the introduction of the T-6 into the Avikat. Zumbach mentions that the T-6s, or at least some of them, were flown to Geneva from Belgium to confuse any observers about their eventual destination. After spending some weeks in Switzerland, they finally found their way to Lisbon, so presumably the UN report mentioned above is correct. The T-6s were removed from the Belgian register in late May 1962, with the comment that they had been sold to the Portuguese Air Force. In Portugal, the T-6s were crated and left by ship for Angola, where they arrived on 10 July. The aircraft were re-assembled at Luanda with Portuguese assistance (Portugal provided unofficial help to Katanga throughout the conflict), a task that obviously took some time to complete. News of the impending delivery meanwhile reached the UN, who on 6 August reported that Avikat personnel were "finalizing purchase of 10 ex Portuguese Harvards". The T-6s were test flown by Zumbach and some of the European pilots he had recruited and were then ferried up to a Portuguese airfield near the Katangan border and from there on to Kolwezi.

(In his book, Zumbach indicates that another four T-6s were in fact bought in South Africa, and that at least one was ferried to Katanga, but this is more an indication of his general unreliability as a source than a historical fact.)

The commander of the Avikat at this time was Jerry Puren, a South African who had served in the SAAF in WWII. He was trained as a navigator or bombardier rather than as a pilot and could only fly light aircraft, if that. The Avimil flying personnel consisted largely of a mix of Belgians, Englishmen, South Africans and Rhodesians, with the odd pilot from other countries such as Italy and New Zealand. Puren had received no warning that Zumbach was on his way or that he would take over as commander of the Avikat. This was decided in a meeting with President Tshombe held in Elisabethville, reportedly on 6 September 1962.

Puren in his book "Mercenary Commander" indicates that the T-6 arrived just before the meeting with Tshombe, which would mean they reached Kolwezi during the first days of September. They were definitely there by 20 September 1962 since on that date they were discovered by a UN Canberra making a routine airfield reconnaissance sweep. The photos indicated that there were between eight and ten T-6s at Kolwezi, many of them heavily camouflaged by bushes, and that at least one aircraft was already being camouflage painted. The conclusion was that the T-6s were "just arriving". The UN were not particularly surprised by the arrival of the T-6s and were convinced that this was a first part delivery of the batch believed purchased in South Africa and in fact the UN retained this belief until the fall of Katanga some months later.

On arrival the T-6s were completely unarmed. The first job was to install armament wiring out to the wings, a job performed by a Belgian electrical contractor at Kolwezi and consequently domestic style light switches were installed in the cockpits as bomb switches! There were no machine guns or rockets installed, instead the aircraft were provided with one, or in a few cases two bomb pylons under each wing. The

pylons were intended for Fouga Magisters and did not fit the curvature of the T-6 wing all that well but they worked. The bombs used were made locally, in the workshops of the Union Minière mining company, and were quite primitive. There were at least two main types of bombs produced but the T-6s mainly used the one with a rounded nose and long, narrow fins. The weight was apparently 50 lbs. They were armed by pins being pulled out the rear of the bomb when they were dropped. But sometimes the wind drag during a dive would pull the pin, and if the bomb didn't drop (which happened) you needed to make a very gentle landing. The whole arrangement was also very inaccurate: "We had to fly about five metres off the ground to have a decent accuracy with these bombs", recalled Roger Bracco, one of the Avikat pilots.

Radios were also installed, at least in some of the T-6s, including a new aerial in front of the windshield.

Zumbach – who went under the nom-de-guerre "Mr Brown" – had brought with him a number of new pilots, mainly Poles who had served in the RAF during WWII. It is unclear how many they were but probably between six and ten all told. Of these, apparently only two or three flew missions on any regular basis. "They were in the bar all the time," recalled Belgian pilot Leon Libert. "They didn't want to fly when they saw the junk we had." Those known to have flown missions included Stefan Wójcik and a pilot who went by the name "Alexander." The latter was possibly Witold Lanowski, who had flown in both the RAF and the USAAF. Other pilots known to have flown the T-6s regularly were the Belgians Bracco and Libert, José Magain and Jacques Demoulin. Englishman Peter Wicksteed and a few other English speaking pilots also flew occasional missions. No Katangans ever flew the T-6s.

Puren (and his ghost writer) provides an account of what he claimed was the first mission of the Avikat T-6s, when all ten aircraft first flew over the front at Kaniama and then went on to carry out attacks west of Kongolo. The targets were vehicles and stores of the Congolese Army, the ANC. Puren provides no date for the attack but indicates that it took place about two weeks after the aircraft arrived. However, the described route would have been a round trip of some 1,250 km, a distance in excess of the range of the T-6. It is therefore likely that Puren mixed up two or more separate missions.

Also, in reality there is no proof of any offensive use of the Avikat T-6s before 17 and 18 October 1962, when three T-6s were reported as having bombed ANC positions near Kongolo. It was also said to be the first time that Avikat aircraft had been observed to operate in formation. It is very likely that these were in fact the first combat missions flown by the T-6s. The extent of the damage caused, if any, is not known, but was likely modest. The psychological impact on the ANC was immense, however.

After the initial attacks the T-6s were not seen again for some time and the UN claimed to have "very reliable" information that the aircraft were grounded due to various minor mechanical problems which the Avikat had difficulty repairing, with its very limited maintenance capabilities. No doubt the spare parts situation was very troublesome since there is no indication that any spares were purchased from Europe. Perhaps the Portuguese provided some limited supplies from their stocks in Angola and possibly some items were salvaged from the T-6 wrecks at Kaminaville but the UN forces later found very few T-6 spare parts, "mostly spark plugs", at the Avikat airfields they captured. Already on the first raid, on 17 October, one T-6 had to land at Kabongo while en route to Kongolo, due to a mechanical defect. Even

so, it is most likely that the Avikat managed to keep several of the aircraft operational at any one time. Leon Libert recalls that a six aircraft mission was flown on one occasion and that this was likely the largest formation ever put into the air by the Avikat.

Although the T-6s saw limited use their political impact was great. The political opposition in the Congo was using the bombings to claim that the government was losing control and the Congolese Government in turn put pressure on the USA to provide air support. This was to lead to the CIA sending a number of Cuban pilots to the Congo in November 1962, to fly T-6s on the government side.

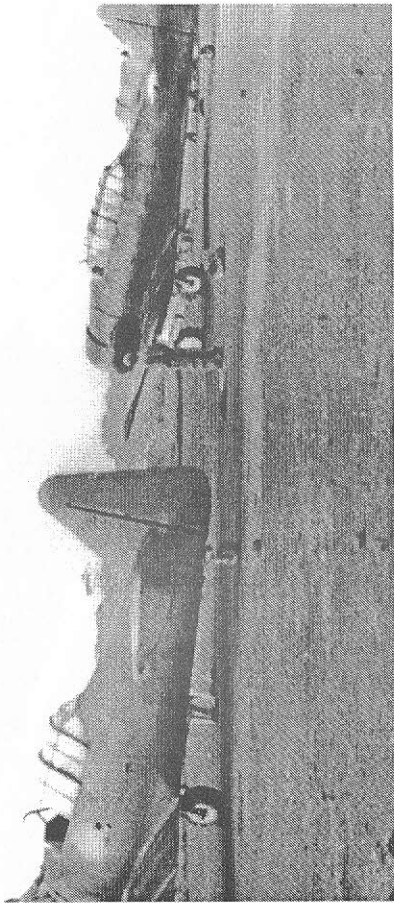
Few details are known of the Avikat T-6 operations during the closing months of 1962 but by all accounts sporadic raids were made against ANC positions in northern Katanga. Puren makes little mention of the use of the T-6s after the first attack, other than saying that there were a "number of such raids". On 10 November T-6s were twice dropping bombs near Kongolo and the following day two T-6s, flown by Stefan Wójcik and John Bennett, were based at Kabongo for four days of operations. UN reconnaissance of Kolwezi revealed varying numbers of T-6s in place on different days so obviously the aircraft did see some use.

Zumbach makes a number of claims of flying on missions with the T-6s, including some in support of mercenary commander Schramme's troops at Kansimba, in "September 1962", a date which is unlikely to be correct. He also talks of leading a six-aircraft formation to Kongolo in mid October. As mentioned above, the T-6s were indeed used at Kongolo from that time but there is actually considerable doubt that Zumbach himself ever took part in any operational flying in Katanga, then or later. His log books are preserved at a museum in Switzerland but there are no flights in Katanga recorded. Most sources agree that he was rarely in Katanga, spending most of his time on various purchasing trips abroad. Many of the dates which Zumbach quotes "from his log book" do, however, correspond fairly well with other sources, such as UN reports, so it is likely that he had access to some kind of source documents when writing his book. There is also an independent report that 24 bombs for the T-6s were airlifted to Kansimba on 1 December, so it is quite likely that the T-6s did support Schramme's unit at this point.

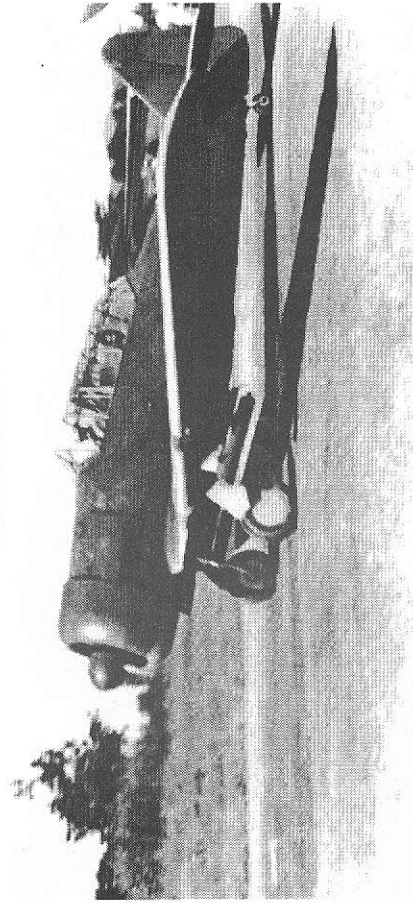
With their use, there was also some attrition of the T-6s. On 13 November, South African pilot Erald "Flynn" Kingman ground-looped a T-6 at Kolwezi and this was actually photographed by the UN a few days later, standing next to the runway with a bent left wingtip. In all probability this was aircraft KA-30. UN reconnaissance photos later revealed that the aircraft was being worked on but it is very likely that it never flew again, even if the damage was relatively limited. The week before this, New Zealander Jock MacDonald was said to have "crashed a Harvard in bushes", whatever that meant. Again, it was likely a minor accident but may well have led to the permanent grounding of the aircraft. A damaged T-6 was also reported at Jadotville in December. None of these accidents are believed to have been particularly serious and certainly did not involve the loss of any lives.

Throughout the autumn of 1962, Avikat continued its low-intensity operations in northern Katanga while the truce with the UN troops still held. This changed in the final days of the year when the UN went on the offensive, following a number of shooting incidents in Elisabethville. One of the highest priorities was the destruction of the Avikat on the ground, to ensure total UN air superiority. The T-6s remained the sole combat aircraft of the Avikat, apart from the home-

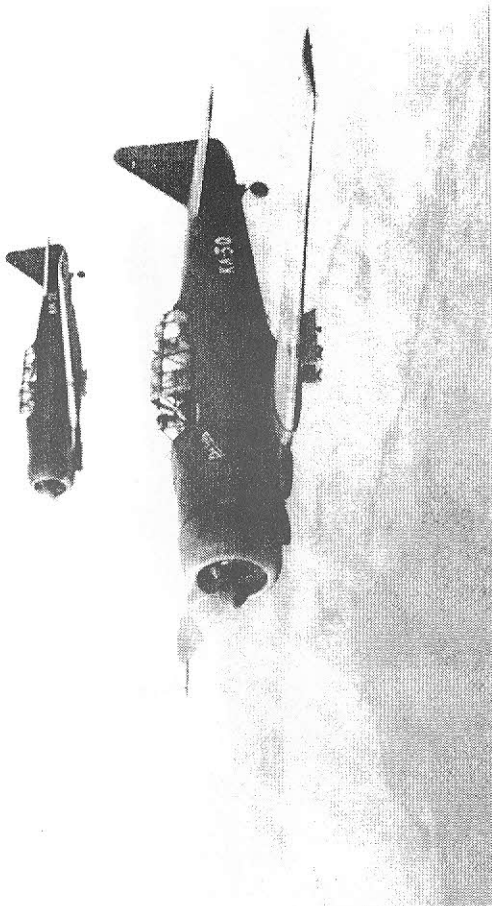




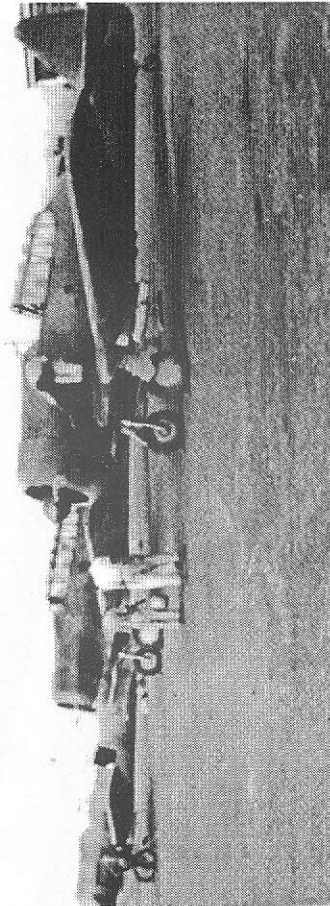
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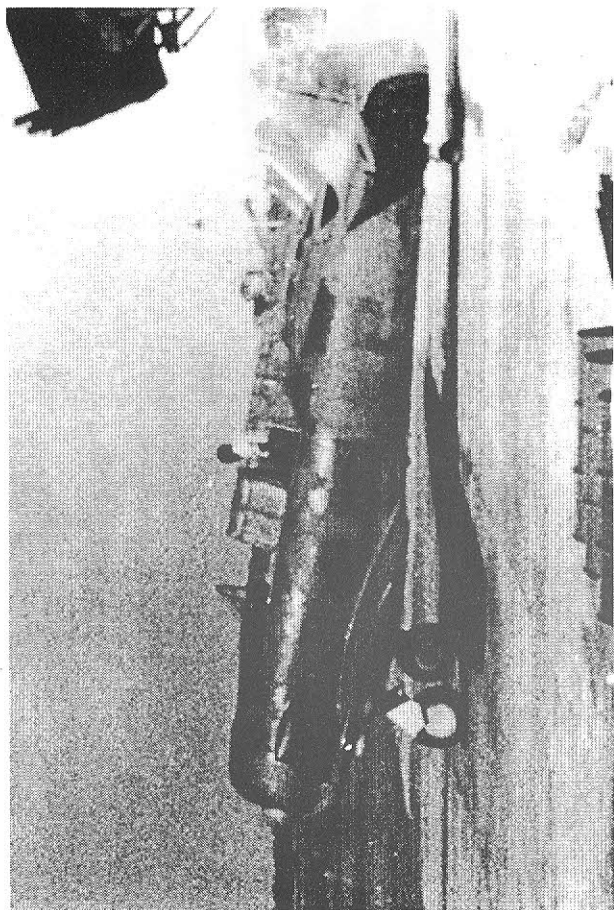
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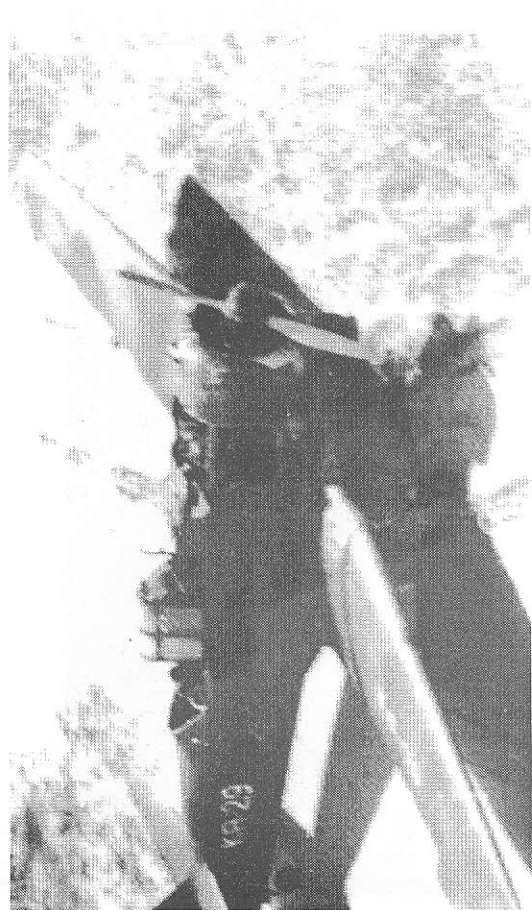
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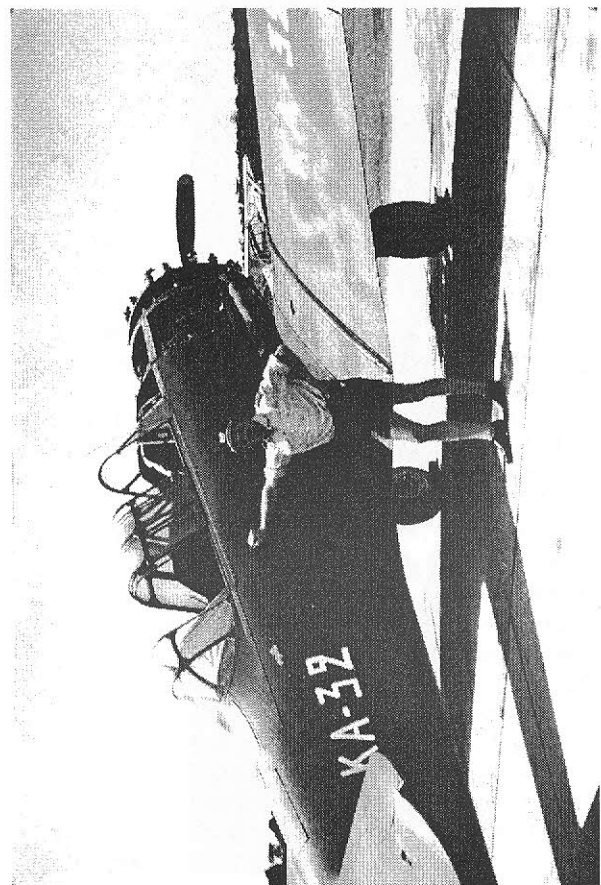
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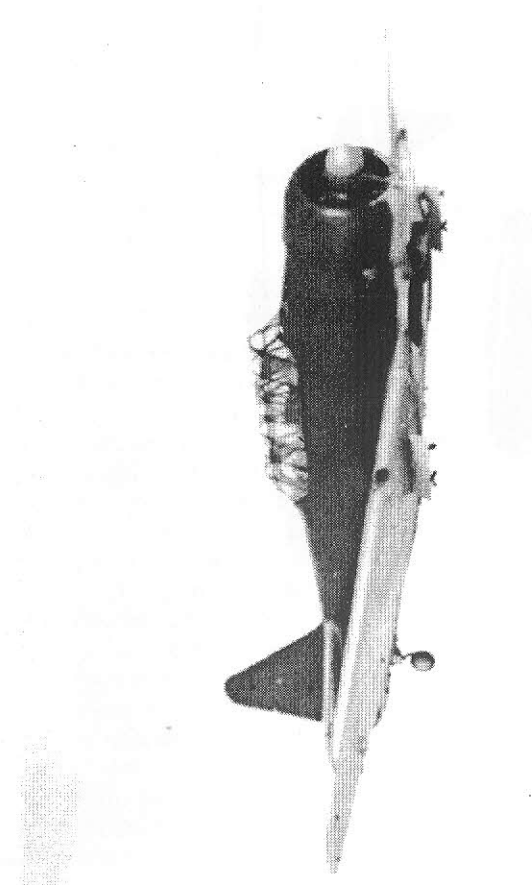
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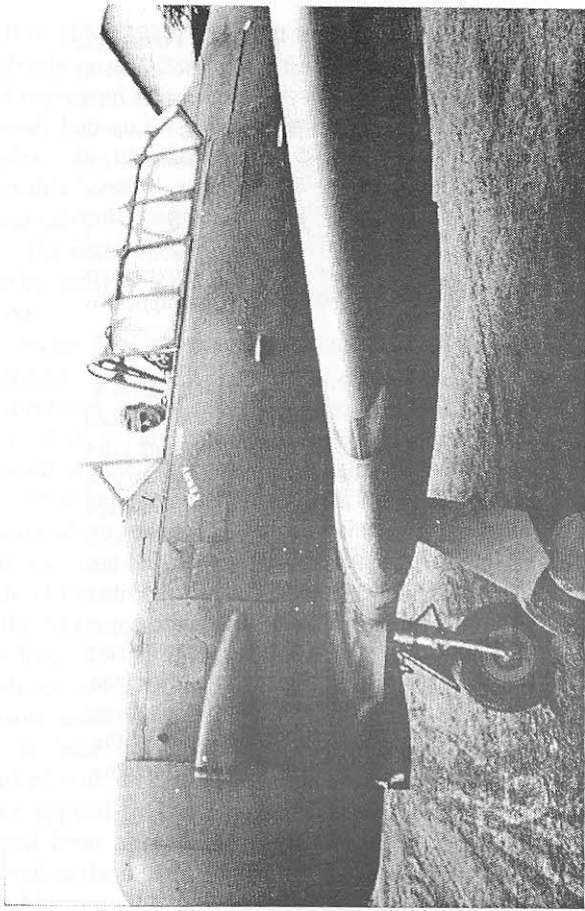


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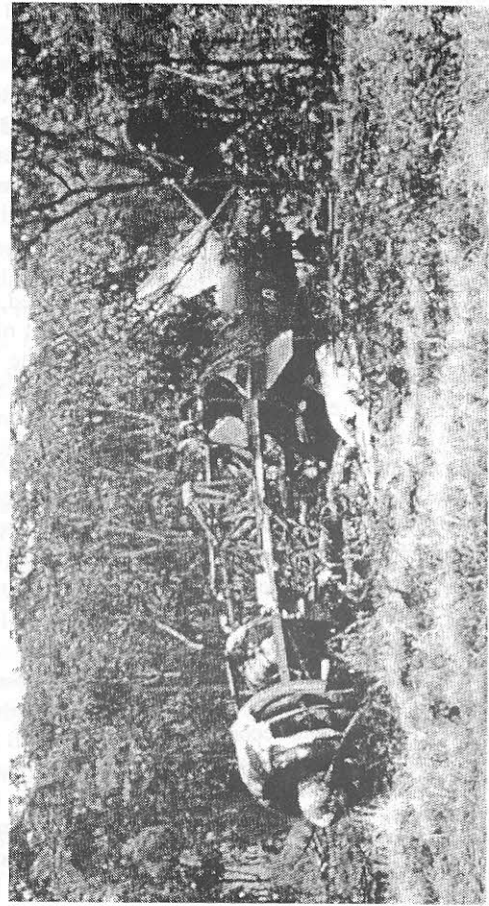


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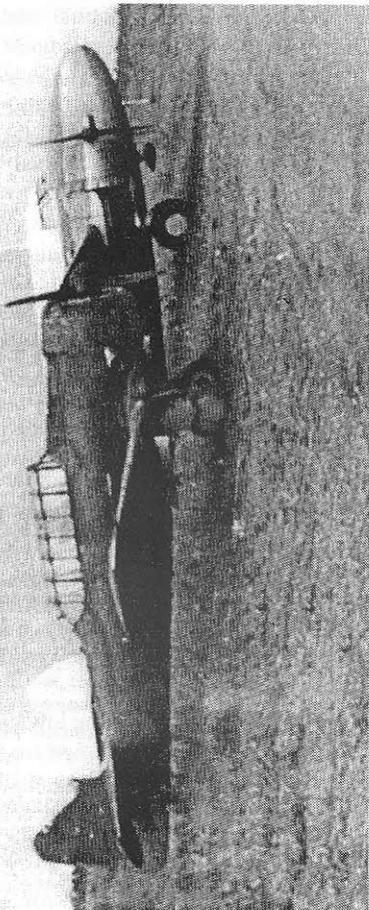




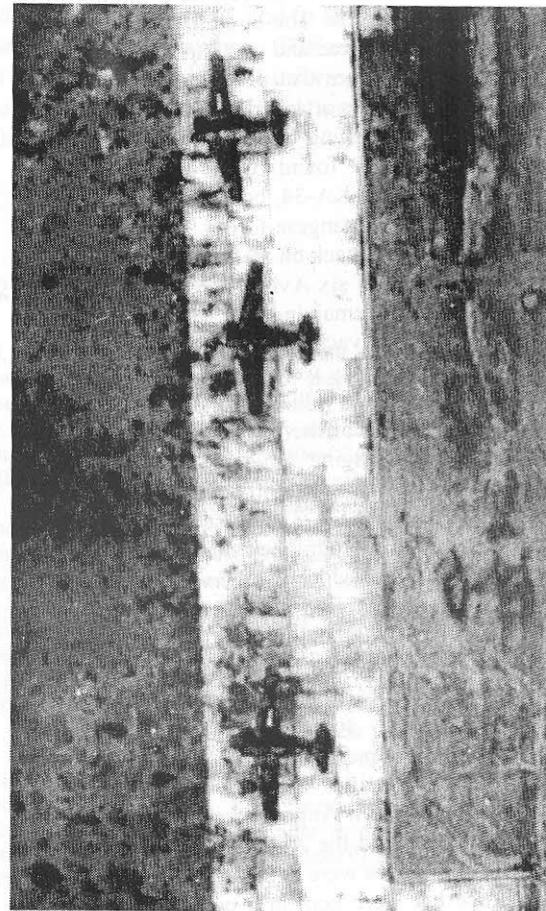
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made Dove bombers. Two de Havilland Vampire T.11s had also been received during the autumn but they were as yet unarmed and in fact never became operational.

By this time the Ethiopian and Indian fighter contingents in the Congo had left, leaving only the SAAB J 29s and S 29s of the Swedish F22 squadron to carry out the operation against Katanga which began on 29 December 1962. The first mission was scheduled for 06.30 hours and aimed at destroying all Avikat aircraft at Kolwezi. But Katanga had warning of the raid the day before and at first light on 29 December Puren began the evacuation of all aircraft that could be moved, using all available pilots. Puren describes how the T-6s got off one by one and that the sixth and last had just got airborne in the morning mist when the J 29s arrived. Mercenary pilot Stefan Wójcik in T-6 KA-25 came head to head with Captain Åke Christiansson, flying J 29B number 29393, coded "white E". Christiansson opened fire with his four 20 mm cannon at some 600 metres and kept firing until the T-6 was 200 m away, all the time turning to try to keep the approaching aircraft in his sight. He saw fragments coming off the T-6 and was convinced that it had been shot down but in reality Wójcik managed to escape into cloud, even though his rudder had been hit and did not work.

Left on the ground at Kolwezi were three T-6s. Two of these, KA-29 and most likely KA-30, were destroyed in the air attacks on the first day. Photo reconnaissance by a SAAB S 29 revealed that another one had been hidden in some bushes away from the runway and this aircraft was set on fire by the J 29s on the following day. The aircraft in question was one of the two Harvard IIBs of the Avikat (and the only one without a spinner) and is believed to have been KA-31, or possibly KA-26.

Wójcik had landed KA-25 at Jadotville, a mining town some 90 miles east of Kolwezi. The aircraft survived further damage in the days that followed and was captured intact on 3 January 1963 by the UN forces that occupied Jadotville. But on 30 December the UN J 29s attacked a camouflaged T-6 at the same field, without managing to set it on fire. When the UN occupied Jadotville they found two T-6 wrecks at the airfield, KA-28 and probably KA-34, both of which had been blown up by the retreating Katangese forces. Most likely both had been damaged in the air attack on 30 December.

This meant that a total of six Avikat T-6s were destroyed or captured in Katanga. The remaining four, along with several other Avikat aircraft, were evacuated to safety in Angola in early January 1963. At first they were flown to Vila Luso but then moved to Henrique de Carvalho, both small towns close to the Katangan border. One of the aircraft, which had been ferried over without any engine cowling and which was generally in poor shape, was apparently abandoned at Vila Luso. It is likely that this was KA-32, the second of Avikat's Harvard IIBs, which was photographed at Kolwezi without cowlings late in its career and which is otherwise unaccounted for.

The other three T-6s, KA-33 and likely KA-27 and KA-26 (or possibly KA-31), were moved on to Luanda in Angola. They were flown a few times by the Avikat pilots but after some of them plotted to fly some of the aircraft to South Africa they were grounded by the Portuguese. Finally, on 27 January 1963, eleven days after the end of the Katangan secession, all Avikat aircraft in Angola were handed over to the Portuguese authorities and the Avikat was dissolved. As far as known, none of the T-6s were ever incorporated into the Portuguese Air Force but were kept in a quiet corner of the Luanda airport. When Katanga's President Tshombe returned

to the Congo as Prime Minister in mid 1964, the Portuguese provided four T-6s to the Congolese Air Force, no doubt as replacements for the four Avikat T-6s which were by then presumably no longer airworthy. The three aircraft at Luanda were inspected by a Belgian officer, on Congolese behalf, in July 1965 and he estimated that it would take some 15 days' work to return them to flying condition, after which they would have to be flown to the Congo for a more thorough overhaul. However, no attempt was ever made to recover them to the Congo and most likely they were eventually scrapped by the Portuguese.

The T-6 captured by the United Nations at Jadotville, KA-25, was repaired with a rudder taken from one of the wrecked T-6s and was test flown successfully by a Norwegian pilot flying for the UN. After that it remained in UN custody and was reported as "deteriorating fast" in July 1963 but was kept in some semblance of shape by running up the engine now and then. On 14 February 1964 it was officially transferred to the Congolese authorities together with all other surviving Avikat aircraft captured by the UN. There is nothing to suggest that it was ever flown again, though, and it almost certainly remained at Jadotville. In fact, a T-6 engine and propeller found in the bush near the airfield in the 1990s may well have come from KA-25, or else from one of the two T-6s burnt out during the fighting. At any rate, they were likely the last mortal remains of any Avikat T-6.

#### Painting and Markings

When flown into Katanga the T-6s retained their former Belgian, civilian appearance, minus the Belgian registrations. This meant that they were largely natural metal or silver painted, usually with black anti-glare panels and wing walkways. Some aircraft had coloured cowlings, wing tips and fin tips, possibly dark green.

Within a few days, if not immediately, the T-6s were camouflage painted. The paints were obtained locally and obviously mixed to very approximate standards by the persons applying the camouflage, since there was considerable variation in colours between some of the aircraft. In most cases, though, the upper surfaces were painted Dark Green and Brown. The green normally had a somewhat metallic tinge, something like FS 34092. The brown showed more variation than the green, ranging from a greyish FS 36306 to a more chocolatey FS 30045. The only aircraft known to have had a completely different paint scheme is the one believed to be KA-26: see drawing for details. The undersides on all aircraft were painted a light Azure Blue, approximately FS 35250.

The camouflage was sprayed on, with quite soft edges. In most cases the colours were matt but at least one or two aircraft (e.g. KA-32) had a more glossy surface. It is possible, though, that the colours were originally gloss on all aircraft but that they faded rapidly to matt. The paint was apparently applied without proper preparation of the surface, since there was considerable chipping on some aircraft.

Unfortunately, the camouflage was very low contrast and the complete camouflage pattern is not known for any single Avikat T-6. The enclosed drawings provide as much detail as can be reconstructed from the available photos. The three aircraft selected are the ones for which the most complete photo coverage is available.

All except one of the T-6s had a T-6G style spinner. In most cases this was painted a rather glossy Forest Green (FS 24108). At least one aircraft each had the spinner painted



Yellow (FS 23538, believed to be KA-26) and Red (FS 21400, probably on KA-27). The propeller itself was black on the rear and unpainted on the front, in both cases with yellow tips. Most aircraft had oval Hamilton Standard decals on the front of the blades. The blades also sometimes showed traces of the aircraft's civilian, Belgian registration, in crude lettering, presumably applied during disassembly for shipment to Angola.

The bomb racks were left in natural metal while the type of bombs most commonly used had an off-white or light grey colour.

Note! It must be pointed out that all the above Federal Standard 595B (FS) numbers are estimations made from photographs and should therefore be taken as approximations only. And as always, the scale effect has to be taken into account, if painting a model.

After being camouflaged the T-6s were initially completely devoid of any markings. At some indeterminate later date, no later than mid November 1962 but quite possibly sooner, at least eight of the aircraft had their serial number applied on both sides of the fuselage as well as on the top right wing. The serial range ran from KA-25 to KA-34 although there is no photographic evidence of KA-26 and KA-31 being applied to any aircraft. For reasons unknown,

at least one aircraft (believed to be KA-26) was never marked with any serial number. In all cases the serial numbers were applied by hand, in white paint. The exact size and style varied from aircraft to aircraft, or even from one side of the aircraft to the other, and was often quite sloppy in application.

Most aircraft also had its serial number repeated in black on the lower part of the front cowling. The size could vary considerably. In most cases it was written the same format as on the fuselage, e.g. "KA-33", but at least one or two aircraft had it painted in the format "H-KA-27", with H presumably standing for Harvard. There is a faint possibility that some of the aircraft were re-numbered, presumably by accident, or else the cowlings

were swapped around, since the aircraft carrying a certain serial on the cowling does not always appear to have been the same as the aircraft carrying the same serial on the fuselage at another date. For the purpose of this article, it has been assumed that the serials carried on the fuselage were the correct ones.

A few aircraft also received personal markings but these were quite discreet. KA-25 was named "Penny" while KA-30 was "Babette", in both cases marked in white paint on the left front fuselage. These two aircraft, and possibly some others, also had white mission marks painted under the canopy on the left-hand side. Finally, KA-25 during a period also had an orange Katangan cross painted on the left side.

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3. United Nations Archives, New York, USA: File Series DAG-13/1.6 (UN Operations in the Congo)
4. Interviews with various former Avikat personnel
5. James Hedges, Diary extracts, 1962-1963
6. Jerry Puren, "Mercenary Commander", Alberton: Galago, 1986
7. Jan Zumbach, "On Wings of War", London: Corgi, 1977

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With special thanks to Phil Scoggins for invaluable, general assistance with the article, and to Brian Scoggins for doing most of the work on the drawings. The author would be happy to hear from anyone with additional information or photos of Avikat T-6s, or indeed any unpublished material on the Congo in the 1960s.

## Captions for photos on pages 53-55 and 72

1) Katangese T-6s KA-30 and KA-28 in the air over Katanga, in the autumn of 1962. KA-30 carries the name "Babette" and unusually has four bomb racks mounted, rather than the usual two. (Photo: Via Leon Libert)

2-3) Two photos showing a line-up of Avikat T-6s, taken before they had their serial numbers applied. Nearest the camera is KA-30, followed by the aircraft believed to be KA-31, with KA-32 at the far end. The latter two were the two Harvard IIBs of the Avikat, neither of which had undercarriage doors fitted. KA-31 was also the only Avikat T-6 without a spinner. (Photo: Via Leon Libert)

4) Aircraft KA-25 taxis out for a mission. The bombs carried are of an alternative type, not normally used by the T-6s. The aircraft does as yet not have any markings applied. (Photo: Via Dave Becker)

5) Mercenary pilot Jimmy Hedges posing by KA-32, which had its serial numbers applied in an unusually tidy fashion. Note the new radio antenna in front of the canopy. (Photo: Via Dave Becker)

6) The flight-line at Kolwezi, with the aircraft believed to be KA-26 closest. This T-6 never had any serial numbers applied and also had an unusual camouflage: see enclosed drawing. In this view, the red-brown areas appear to be much more glossy than the rest of the camouflage. (Photo: Via Dave Becker)

7) Avikat T-6 KA-28 in the air. The serial number on the front of the cowling is just visible. The low contrast of the camouflage on this aircraft is very evident. (Photo: Via Leon Libert)

8) A remarkable reconnaissance photo of KA-29, snapped by a United Nations SAAB S 29C flying over the Kolwezi airfield at 50 feet on 29 December 1962. The T-6 was destroyed the following day. (Photo: F22)

9) KA-33 photographed in Angola after its escape from Katanga in January 1963. The serials on the fuselage and wings have been painted out by the Portuguese. In the background is Lodestar KA-131, one of the two of Avikat's transport aircraft: DC-3 KA-40 was the other. (Photo: Via Dave Becker)

10) Details of the markings under the canopy of KA-25, snapped at Jadotville after the aircraft was captured by the UN. The Katangan cross previously also carried had already been removed. (Photo: Gilbert Casselsjö)

11) An enlargement of a UN high-altitude reconnaissance photo of Kolwezi, showing three T-6s on the tarmac. The T-6 in the middle is the one believed to be KA-26 while the flanking aircraft are unidentified. Note the major differences in the camouflage patterns and colours. (Photo: F22)

12) The fate that befell half of the Avikat T-6s: being knocked out on the ground in UN air attacks. In this case the victim is KA-28 at Jadotville. (Photo: Gilbert Casselsjö)

13) The rear fuselage of KA-34, showing the typical, sloppy application of the serial number. (Photo: Via Dave Becker)

14) Another photo of KA-33 photographed in Angola after its escape from Katanga in January 1963. See photo 9). (Photo: Via Dave Becker)

Serial	Type	C/n	Previous IDs/users	Served from	Served to	Remarks
KA-25	T-6C	88-13598	41-33752, RAF EX779, SAAF 7409, BAF H43, OO-GDM	Sep 62	3 Jan 63	Abandoned at Jadotville-Kamatanda after hit in air by UN J 29. Captured by UN troops. Officially to Congolese Air Force 14 Feb 64 but not taken up. Green spinner. Named "Penny".
KA-26	T-6C*	88-9260*	41-33154, RAF EX181, SAAF 7045, BAF H18, OO-GEQ*	Sep 62	27 Jan 63	Believed to be the yellow spinner aircraft that escaped to Angola. Still at Luanda Jul 65. Serial not painted on aircraft. (Info may apply to KA-31 instead.)
KA-27	T-6C*	88-9689*	41-33246, RAF EX273, SAAF 7184, BAF H36, OO-GES*	Sep 62	27 Jan 63	Believed to be the red spinner aircraft that escaped to Angola. Still at Luanda Jul 65.
KA-28	T-6C*	88-10014*	41-33344, RAF EX371, SAAF 7187, BAF H26, OO-GEN*	Sep 62	Jan 63	Destroyed at Jadotville-Kamatanda by retreating Kangalese.
KA-29	T-6C*	88-12067*	41-33596, RAF EX623, SAAF 7344, BAF H42, OO-GDL*	Sep 62	29 Dec 62	Destroyed at Kolwezi-Kengere by UN air attack.
KA-30	T-6C*	88-12327*	41-33634, RAF EX661, SAAF 7315, BAF H31, OO-GER*	Sep 62	29 Dec 62	Believed destroyed at Kolwezi-Kengere by UN air attack. Green spinner. Named "Babette". Had four bomb racks at one stage.
KA-31	Harvard IIB*	14A-2415*	RAF KF715, BAF H67, OO-GDP*	Sep 62	30 Dec 62	Believed destroyed at Kolwezi-Kengere by UN air attack. No spinner. (Info may apply to KA-26 instead.)
KA-32	Harvard IIB	14A-2115*	RAF KF415, BAF H52, OO-GDO*	Sep 62	Jan 63	Believed to have escaped to Angola without cowlings and abandoned at Vila Luso. Green spinner.
KA-33	T-6C	88-10554*	41-33434, RAF EX461, SAAF 7210, BAF H28, OO-GEO*	Sep 62	27 Jan 63	Escaped to Angola. Still at Luanda Jul 65. Green spinner.
KA-34	T-6A*	78-6562*	41-16184, RAF ..., BAF H48, OO-GDN*	Sep 62	Jan 63	Believed to have been destroyed at Jadotville-Kamatanda by retreating Katangese.

Information marked "\*" is not conclusively tied to the aircraft in question.

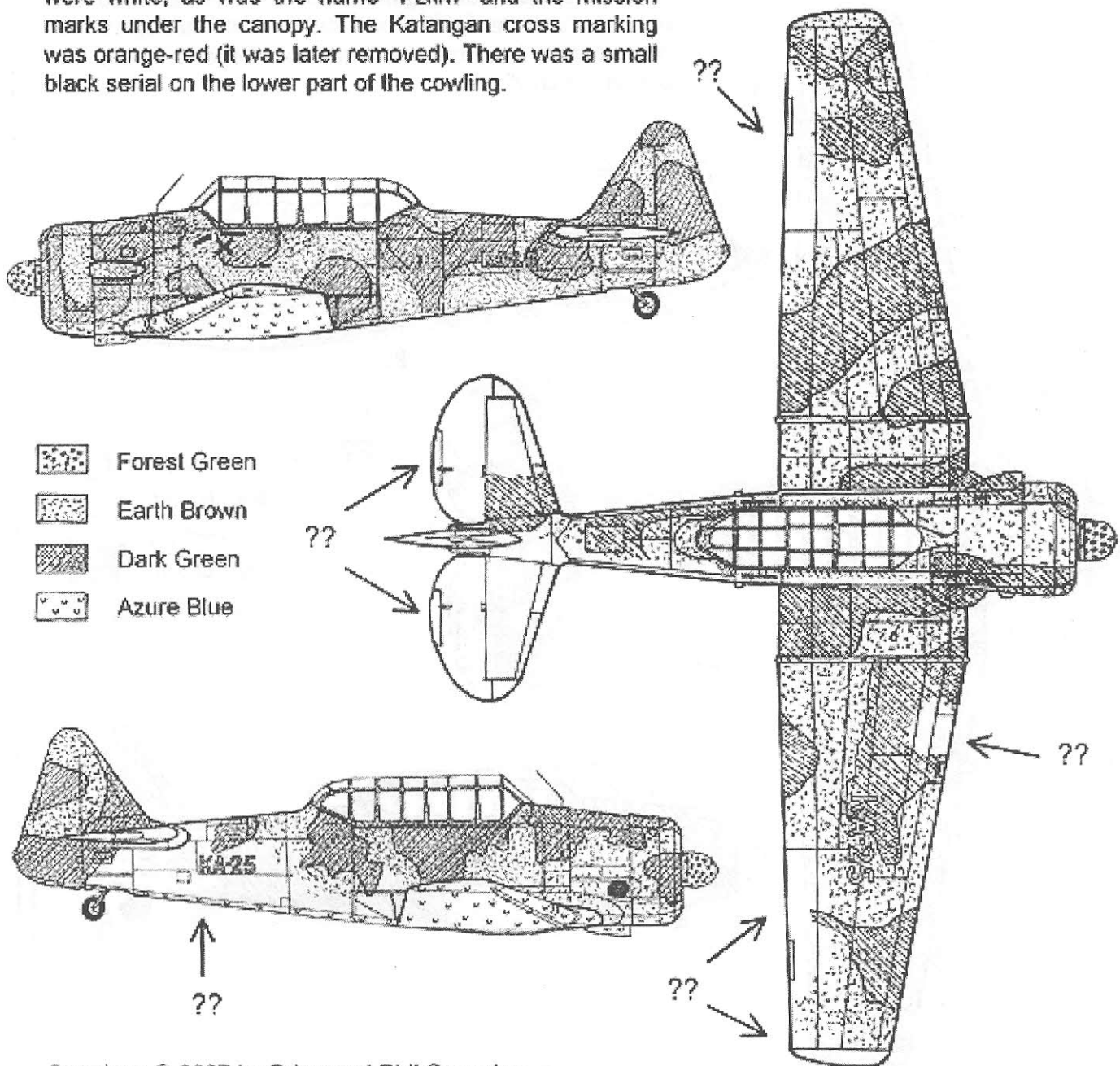


# Avikat T-6C KA-25

Aircraft KA-25 is the only Avikat T-6 conclusively identified (USAAF s/n 41-33752, c/n 88-13598). The aircraft also has the distinction of being the only Avikat aircraft to see "air combat" as it was attacked and slightly damaged by a UN SAAB J 29B on 29 December 1962, while flown by Polish mercenary Stefan Wójcik. The T-6 was captured by UN forces at Jadotville-Kamatanda airfield a few days later. It was test flown by the UN but was then left at Jadotville to rot.

Like most Avikat T-6s, KA-25 was painted Earth Brown and Dark Green, with Azure Blue undersides. The colours were similar to the "standard" colours described in the article text. Part of the pattern is unknown, marked "??". The spinner was a glossy Forest Green.

The serial numbers on the fuselage and above the wings were white, as was the name "PENNY" and the mission marks under the canopy. The Katangan cross marking was orange-red (it was later removed). There was a small black serial on the lower part of the cowling.



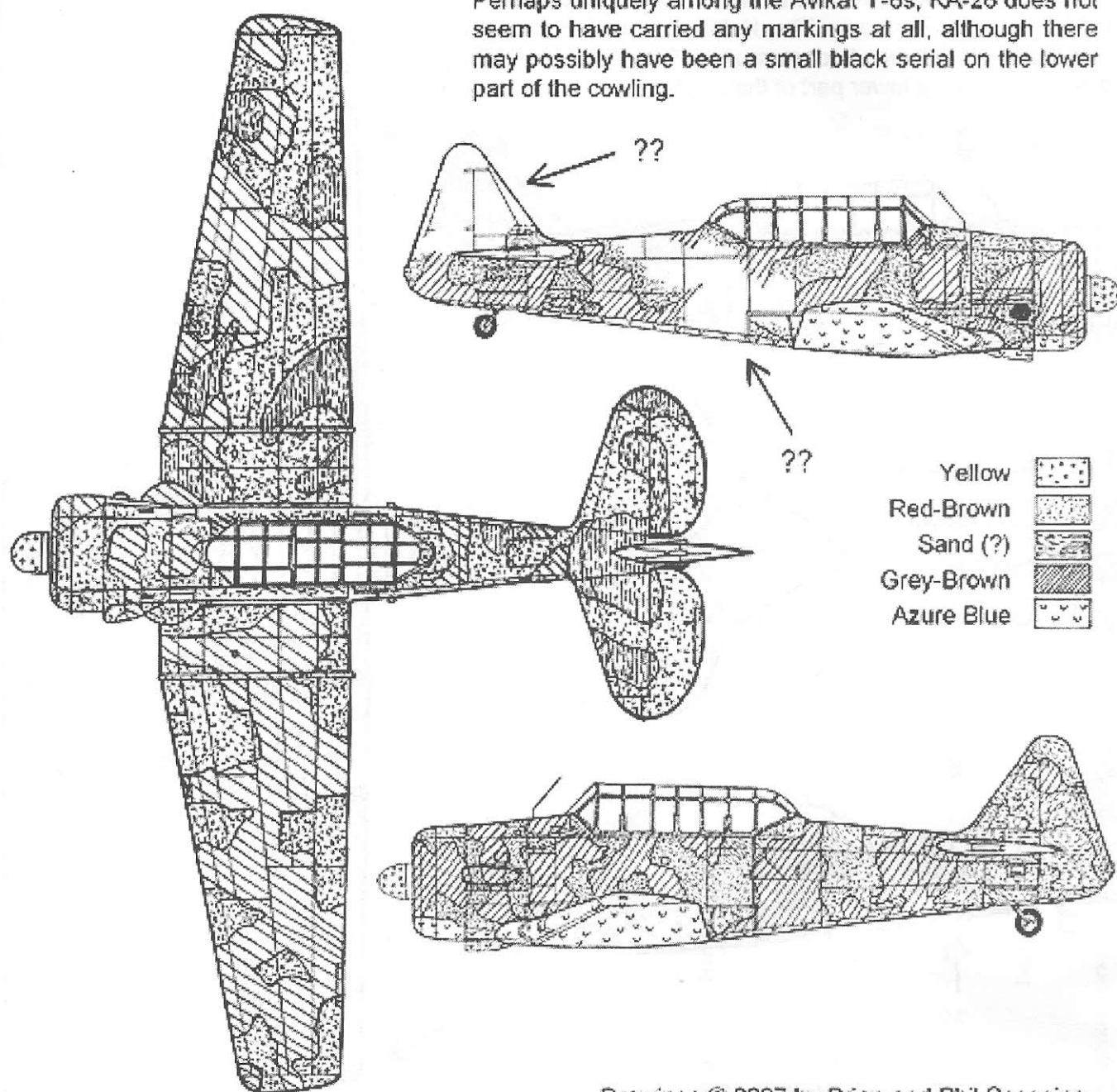
Drawings © 2007 by Brian and Phil Scoggins

## Avikat T-6C KA-26 (?)

Since this aircraft carried no serial number, its identity cannot be conclusively established. It was, however, either KA-26 or KA-31, with the former being the more likely identity. Its c/n was either 88-9260, 88-9689 or 88-10554. The aircraft escaped to Angola in early January 1963 and was most likely eventually scrapped at Luanda by the Portuguese.

KA-26 had a camouflage that was different from all other Avikat T-6s. Instead of the usual green component, it had areas that were a Red-Brown colour (approximately FS 30160). Instead of chocolate brown, a Grey-Brown colour was used (something like FS 36306). In addition, black-and-white photos indicate that a third, lighter colour was used on the tail and the right wing. Possibly this was a Sand colour but this is not confirmed. The spinner was Yellow.

Perhaps uniquely among the Avikat T-6s, KA-26 does not seem to have carried any markings at all, although there may possibly have been a small black serial on the lower part of the cowl.



Drawings © 2007 by Brian and Phil Scoggins

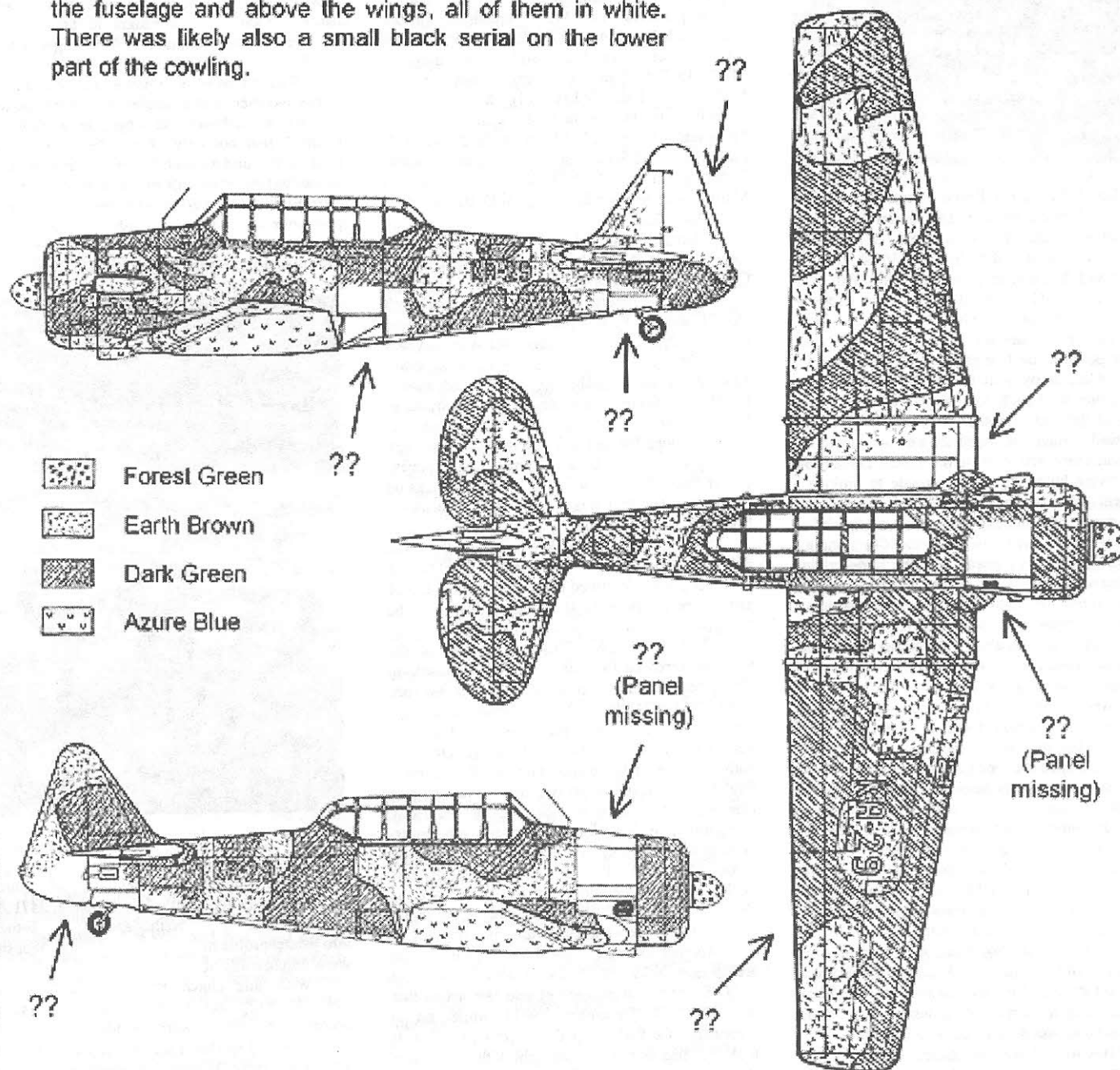


## Avikat T-6A/C KA-29

Avikat T-6 KA-29 is one of the several aircraft for which the c/n is still unknown. It is probably a T-6C but may be a T-6A. It likely suffered some kind of minor accident or malfunction in its final weeks since it was photographed apparently abandoned near the end of the runway at Kolwezi-Kengere. It was still there when destroyed by attacking UN SAAB J 29Bs on 29 December 1962.

The camouflage on KA-29 was in many ways typical for the Avikat T-6s. As usual, it was painted Earth Brown and Dark Green, with Azure Blue undersides. The brown colour was the "standard" one (similar to FS 30045) while the green was perhaps a bit greener than normal (roughly FS 34108). Part of the pattern is again unknown. The spinner was likely a glossy Forest Green.

The only apparent markings were the serial numbers on the fuselage and above the wings, all of them in white. There was likely also a small black serial on the lower part of the cowl.



Drawings © 2007 by Brian and Phil Scoggins



**The Dutch Naval Air Force Against Japan: The Defense of the Netherlands East Indies 1941-1942**, by Tim Womack. 217 pages, \$35.00 softcover, (7 inch by 10 inch), ISBN 0-7864-2365-X, (2006). McFarland & Company, Inc. Publisher, Box 611, Jefferson, NC 28640, USA. Website: [www.mcfarlandpub.com](http://www.mcfarlandpub.com). Order line: 800-253-2187.

This book has no color profiles or scale drawings; there are few photos, and those that are included are fairly well known. Then, why am I nominating this book for the "Small Air Forces Book of the Year" award? Not only is this book very well written, but by limiting his subject to the reconnaissance activities of the Dutch Do 24 and BPY flying boats, the author is able to provide a coherent story of the Japanese conquest of the Netherlands East Indies. I've read many books on the early days of the Pacific War, and Chris Shore's *Bloody Shambles* is arguably the best in describing the overall aerial actions of this period. However, by describing the entire air war, reconnaissance, fighters, bombers, etc., as a reader of Chris' seminal work I found it difficult to follow the flow of the Japanese advances. Tom Womack avoids this problem by focusing on the activities of the flying boats whose job it was to cover the Japanese movements. Numerous maps, or rather the same map with the movements in each critical period displayed, helped me keep track of the action.

The content of the book is summarized by the publisher's insert:

"December 7, 1941, opened up a new theater of war in the Pacific and a new threat for what was then the Netherlands East Indies. The Dutch, with their Naval Air Force or Marine Luchvaart Dienst (MLD), made a significant and often overlooked contribution to the Allied effort. With their 175 aircraft, the MLD in Southeast Asia outnumbered American and British naval air reconnaissance forces combined. Three months of intense fighting left the Dutch bereft of thousands of naval personnel and over 80 percent of their aircraft.

"This work details the actions of MLD during the Japanese invasion of the Netherlands East Indies. Beginning with a look at the origins of the MLD, it provides an overview of the force,

including an analysis of its aircraft, equipment, personnel and training. Operations of the United States Navy and Royal Air Force seaplane units are included in order to provide a thorough history of the campaign. Final chapters cover the MLD's ill-fated attempts at evacuation of the island battleground and offer an overall review of the MLD's performance."

The chapter headings convey the contents: (1) The MLD: Equipment and Doctrine. (2) Cold War Clashes: The Build-Up to War. (3) December, Part 1: The MLD Goes to War. (4) December, Part 2: The USN Evacuates the Philippines. (5) January, Part 1: The Japanese Move South. (6) January, Part 2: The Dutch Go on the Defensive. (7) February, Part 1: The Air Assault on Java. (8) February, Part 2: The Dutch Crumble. (9) March: "The End of a Courageous Fight, Admiral".

Appendices: (1) MLD Squadrons in the Netherlands East Indies. (2) MLD Dornier Do 24K Flying Boats in the Netherlands East Indies. (3) MLD BPY-5 Catalina Flying Boats in The Netherlands East Indies. (4) MLD Reserve Seaplanes in the Netherlands East Indies. (5) Specifications for MLD Planes in the Netherlands East Indies. (6) Specifications for Japanese Planes Operating in the Netherlands East Indies. (7) Marine Seaplane Tenders. (8) MLD Bases in the Netherlands East Indies.

Charts: 1: Breakdown of MLD Losses by Chart. 2: Breakdown of Do 24 and BPY Losses by Chart. 3: MLD Losses by Cause.

From the reports brought back by the Dutch Do 24 and BPY, the planning of the Japanese becomes clear. The initial invasions were covered by cruiser-borne float planes or carrier air support. After an airbase is established, the next advance is limited to objectives that can be covered by land-based fighters. Step by step, in two parallel advances along the east and west of the archipelago, the Japanese soon isolated Java. The Japanese carrier fleet patrolling south of Java and attacks on the ports in Western Australia made the evacuation from Java a costly affair.

An example of the details, taken from the publisher's website was presented in SAFO #118 (October 2006), described the attack of MLD Do 24 against the Japanese naval buildup at Davao in the Philippines. A few other examples follow:

One of the few offensive successes of the MLD occurred on December 17, 1941: "Attacking out of heavy cloud cover at just under 15,000 feet, X-32 [Ed: Do-24] dropped six 500-pound bombs on the cruiser. In reality, this was the 1,950-ton destroyer *Shinonome* of the 12<sup>th</sup> Destroyer Division. Although one of the bombs hung in X-32's rack, five dropped, resulting in two direct hits and one near miss. Apparently one of them ignited ready ammunition in one of the destroyer's aft turrets, causing a huge plume of white smoke to billow up 5,000-6,000 feet. Within one minute of this explosion, *Shinonome* lost way and heeled over as she went down by the stern, taking along her entire crew of 228 officers and men within five minutes."

Another example: "On the other side of the archipelago, X-19 [Ed: Do-24] of GVT.3 (flying out of NAS Samboe at Singapore) also saw action that day [Ed: 27 December 1941] while on a reconnaissance flight over the South China Sea. It took four hits in a 90-minute fight with yet another 'Nell' belonging to the Kanoya Air Wing while operating near the Anabas Islands. The bomber crew from the 'Nell' claimed the flying boat shot down, but X-19 returned home with little difficulty.

In return, the Dutch gunners also claimed to have damaged the bomber before both planes broke off."

While most of the action concerned Do 24 and BPY, the author does not neglect the second-line and training aircraft. On 2 February, during a Japanese attack on eastern Java: "The next victim was a Ryan floatplane. At the controls were a Dutch student pilot and Ernst Lee, one of the 12 American civilian flight instructors in the East Indies to help train MLD pilots. The trainer was on final approach in Soerabaja's harbor with the student at the controls when exploding bombs tore across its path, causing him to lose control. Lee tried to wrestle the floatplane back into the air, but the STM plunged into the water and sank immediately. Although both pilots survived, Dutch soldiers on shore thought they were Japanese and opened fire. Fortunately they missed and the pilots were able to swim ashore." Other aircraft caught in the raid were Dornier Wal and Fokker T-IV twin-engine trainers and Fokker C.XI single-engine floatplanes.

This is type of information that should appeal to the modeler. For example, the combat between the DO 24 and Nell is the subject for a "Dog Fight Double" that not only allows the small-air-force modeler to build a Dutch Do 24, but to take that kit of the Nell out of the loft with a clear conscience.

Run, don't walk to your nearest mail box to post your check to the publisher. You won't be disappointed.

Review copy courtesy of the publisher.



**Fokker D.XXI, Operations of the LVA/ML Fokker D.XXI/D.21**, by Frits Gerdessen. 60 A-4 pages, softcover; Dutch/English text. 17.95 Euros. Published by Dutch Profile, Kerkstraat 2, 2471 AP Zwammerdam, Netherlands. E-mail: [info@dutchprofile.nl](mailto:info@dutchprofile.nl). Website: [www.dutchprofile.nl](http://www.dutchprofile.nl).

With this Dutch Profile, Frits Gerdessen (SAFCH #12) has authored what will surely become the definite work on the service of the Fokker D.XXI in Dutch service. In this work, Frits adds new facts, corrects assumptions of earlier works and dispels myths held by writers and modelers.



The text, in both Dutch and English, describes the development of the D.XXI and the fate of the prototype FD-332 the East Indies where it was not very well liked. The organization of the D.XXI units before the war is described and the aircraft employment during neutrality patrols during the Phony War is described including a description of all interceptions of aircraft intruding on Dutch air space. Actions during the German invasion are described on a day-by-day basis with the pilot's name and aircraft serial number given for each D.XXI action, and often including the name and unit of their German opponent.

A table lists the Luftwaffe claims for D.XXIs destroyed listing date, time, unit, pilot, and location. Unfortunately, this table does not attempt to connect these claim to lost D.XXIs. This reviewer would also have liked a table listing the D.XXIs lost, although such a table could easily have been made from the information in the synopsis section mentioned below. A synopsis of the career of each Dutch D.XXI is included. This synopsis is all in Dutch, but is fairly easy to decipher.

The text is accompanied by 79 well-reproduced photos and 7 pages of beautiful color drawings. These drawings include 4-views (port, starboard, top, and bottom) of '213' with prewar Dutch roundels and tricolor rudder; '235', '223', and '229' with orange triangles and orange rudder; '227' in the middle of being repainted with roundels still on the fuselage and under the wings, but with the rudder painted dark brown and orange triangles above the wings and the starboard fuselage roundel partially over painted with an orange triangle, and captured '231' with German crosses in six position but still with an orange rudder (no swastika). Color side-view drawings show two proposals for changing the national insignia before the orange triangle was adopted; one was a round ring segment with red/white/blue quadrants, and the other a square 'ring' similarly segmented. These insignia were never applied to a Dutch D.XXI, but they would make a couple of interesting "what ifs" for a modeler's collection.

Probably the most eye-opening conclusion by Frits is that the exact shades of the D.XXI camouflage differs substantially from those on the D.XXI reconstruction displayed at the Dutch Air Force Museum (color photos included in the book) and illustrated in all the model magazines and on the box top of D.XXI kits. Frits identifies the upper surfaces colors as Camouflagebruin FS 20059, Camouflagebeige FS 20636, and Camouflagegroen FS 24077. He doesn't identify the undersurface brown, but the color drawings show a brown considerably darker than I have come to expect. As a final blow to the modeler who has already finished a model of the Dutch D.XXI, he shows that there were two different camouflage schemes used. Aircraft 212 to 229 used "Pattern 1" while 230 to 247 used "Pattern 2". These patterns were the same, but the colors were interchanged. Three-view drawings are provided for both patterns.

The Dutch Profile of the Fokker D.XXI is highly recommended to all enthusiasts interested in the early days of WWII, and is a must for all modelers who have ever built a model of a Dutch D.XXI or plan to do one in the future. For your copy, write directly to the publisher, not to me. You'll have to pry it out of my dead hands before I'll give up my copy.

Other Dutch Profiles available are: #1. Lockheed 12 RNEIAF; #2. P-51D/K Mustang RNEIAF; #3. Hawker Seafury RNehtNavy; #4. De Nederlandsch Indische Spitfire.



**Bulgarian Fighters: Part I**, by Dimitar Nedialkov. 76 landscape pages. 285 mm by 210 mm (11.25 inch by 8.25 inch), softbound. Bulgarian/English text. Published in Bulgaria. Website: [www.bularia.com](http://www.bularia.com). Also available for \$18.00 from: Boyan Savov, 1301 Wild Olive Dr., Mount Pleasant, NC 29464, USA.

In the July 2007 issue of SAFO, the four-volume set on the *History of the Royal Bulgarian Air Force* was given an enthusiastic review. Now, from the same author comes a two-volume set on *Bulgarian Fighters*.

This first volume covers the time period from 1915 to 1943 in 76 pages including 152 photos. Chapter 1 "The Beginning" (5 pages, 9 photos). The first Bulgarian fighters, three Fokker E80/E-III, landed near Sofia on 27 September 1915.

Chapter 2 "The First Air Combat" (12 pages, 15 photos). The combat story begins on 30 September 1916 when a pair Bulgarian Fokker E.III intercepted a French Farman flying reconnaissance out of Salonika and shot it down in Bulgarian territory. A full description of this combat and its aftermath is given in the chapter. Other aircraft used by Bulgarian AF during this time were the Otto C.I, Albatros C.III, and LVG C.II.

Chapter 3 "The Strike Fighter Force" (18 pages, 35 photos). In 1917, the Bulgarian AF received real fighting aeroplanes in the shape of Roland D.II and D.III.

Chapter 4 "The Revival" (37 pages, 97 photos). At the end of WWI, the Treaty of Neuilly-sur-Seine denied the Kingdom of Bulgaria any military aviation. However, a clandestine Bulgarian AF used various indigenously-designed DAR and KB aircraft in civilian markings (at first B- and latter LV-). In 1936, all pretexts were dropped and a national insignia returned in the form of the red Maltese cross on Ar 95, He 51, Fw 56, PZL-24, and Avia B-534. After the start of WWII, the national insignia was changed to a black St. Andrew cross and the Bulgarian AF received Me 109 (sic) and Dewoitine D.520.

The 12 excellent color profiles are: Fokker E-III, Roland D.II, Roland D.III, Fokker D.VII, Arado Ar 65 Orel, Arado Ar 96 Sokol, PZL P.24B Yastreb, Avia B.534 Dogan, Me 109E-4 Strela, Me 109E-3 Strela, Me 109G-2 Strela, D.520. The Fokker D-VII is shown carrying the short-lived Entente occupational insignia (a roundel with red/blue/white from the center) in 1919.

The cover color painting shows a pair of Bulgarian Fokker E-IIIs attacking a French Farman F41.

*Bulgarian Fighters: Part I* contains detailed information, excellently-reproduced photos, and colorful aircraft profiles. It is a must for inclusion in the library of all enthusiasts interested in the aviation history of the Balkans and to modelers wanting to add some colorful Bulgarian aircraft to their collection.



**Bulgarian Fighters: Part II**, by Dimitar Nedialkov. 76 landscape pages. 285 mm by 210 mm (11.25 inch by 8.25 inch), softbound. Bulgarian/English text. Published in Bulgaria. Website: [www.bularia.com](http://www.bularia.com). Also available for \$18.00 from: Boyan Savov, 1301 Wild Olive Dr., Mount Pleasant, NC 29464, USA.

Chapter 1 "Testing Days" (32 pages, 54 photos) The Bulgarian fighter's first combat in WWII occurred on 1 August 1943 when B-534 and Me 109E (sic) intercepted USSAF B-24 retiring from their raid on the Polisti oil refineries in Romania. The B-534 were ineffective, but the Messerschmitts accounted for four bombers. Each combat on this day is described in great detail giving the name of the Bulgarian pilot, the type of aircraft he was flying, and information on the USSAF bombers destroyed. The chapter continues with similarly-detailed accounts of USSAF attacks on Sofia and other Bulgarian targets up to the end of 1943.

Chapter 2 "Total Confrontation" (23 pages, 23 photos) and Chapter 3 "In Action against Enemy Overflights" (20 pages, 23 photos) picks up the action at the beginning of 1944 with detailed analysis of each aerial combat over Bulgaria with Bulgarian Me 109 and D.520 against USSAF B-24, B-17, B-25, P-38, and P-51.

In a summary of Bulgarian fighter accomplishments in WWII, the author states that, "The fighter force was credited with 54 victories (one victory for every seven encounters). ... Own losses came to 27 aircraft and 23 pilots: one lose for every 14 sorties at a mean enemy numerical superiority of seven to one."

The color profiles in this volume (4 pages) are: Arado Ar 65 Orel, He 51B Sokol, Avia B-534 Dogan, PZL-24B Yastreb, Me 109E, Avia Av-135B, Me 109G-2, Me 109G-6 (6), and Dewoitine D.520 (3).

The full-page color paintings are: (1) Me 109G attacking B-17s. (2) Poruchik Bonchev raming a B-24. (3) D.520 downing a P-38. (4) Dewoitine D.521 attacking a B-17.

*Bulgarian Fighters Vol. 2* is a must for anyone interested in the Bulgarian AF in WWII. It should also be of interest to anyone studying the USSAF strategic bombing offensive in WWII. The modeler will not find this volume as interesting as Vol. 1 because most of the action centers on Me 109 and D.520. However, the modeler looking for subject matter for his "dogfight double" collection will find many great subjects here. How about a Dewoitine D.520 shooting down a Lockheed P-38 with documentation describing the date, location, and the names and units of both pilots. This is the ultimate in "historical" modeling.



**Letov Š-328, Vol. 2; The Luftwaffe, Slovak Air Force and Bulgarian Air Force, and Slovak National Uprising**, by Jiří Vraný. Jakab #2. 104 A-4 size pages (8 in full color); 20 color side-views; 150 b/w photos; 1/72 scale plans; Softbound. Czech/English text (2004) Published by Jiří Jakab, Nevojice 144, 685 01 Bucovice, Czech Republic. E-mail: jakab@razdva.cz.

A few issue back (SAFO #120 April 2007), I reviewed Vol. 1 of the Letov Š-328 series. Now it is my pleasure to review Vol. 2. Volume 1 covered the development of the Š-328 and its service in the Czechoslovak Air Force. This volume covers the Š-328 service with the Luftwaffe, the Slovak Air Force, and the Bulgarian Air Force. It completes the Š-328 story by describing the markings and color schemes of all Š-328 users (including Czechoslovakia). It also provides a detailed technical description, multi-view scale drawings, and a table giving the history of all Š-328 variants from the Š-28 to Š-528.

As the co-author (with a friend in Slovakia) of several articles on the Slovak Air Force, I thought I knew a lot about the Slovak Air Force. Boy! Was I wrong! I will quote a few examples of what I learned. These quotes will give you an idea of the detailed information presented in the volume and the high quality of the English translation.

In the Slovak Air Force the Š-328 was "Known under the nickname *Kravka* (little cow)."

During the first days of the German invasion of Poland, the Polish Air Force sent reconnaissance aircraft over Slovakia. The "Slovak reply was only the anti-aircraft fire from positions around the defended targets and sending of fighter patrols, which succeeded to shoot down one 'Lublin'."

During the September Campaign, "Slovak pilots escorted German Ju 87 *Stuka* dive bombers on eight missions deep into Polish territory and on 9<sup>th</sup> September they lost a B-534 fighter."

In three months on the Eastern Front, "The observation squadron flew for the period some 1452 sorties of 1320 hours total time, of these 664 took the ferry flights between airfields and some 702 hours were spent on combat sorties over the occupied territory. At the front they recorded some 73 reconnaissance sorties, 7 bombing and 5 strafing sorties and 1 'air combat' or an escape from the flight of five Soviet fighters."

During the Slovak National Uprising in 1944, the Insurgent Š-328 met the Luftwaffe. "During an

attempt to strafe the column or during a return flight to load further bombs at Popard airfield the nimble yet slow *kravka* was attacked by two Ju 87 *Stukas* that inflicted serious damage to it." "On 7 September the sight of an archaic biplane tempted the crew of a German twin-tailed Fw 189A to get an easy victory. The 'frame' attacked with its guns blazing but the observer of the 'little cow' was both a tough guy and a good shot, hitting the Nazi so accurately that the seriously damaged aircraft went down and crash-landed on the insurgent territory!"

In Bulgarian service the Š-328 was known as the *Vrana* and served in anti-partisan activities in Yugoslavia and on anti-submarine duties over the Black Sea. "It paid back already on 15<sup>th</sup> October, when one machine spotted a submarine approaching at the periscope depth to a transport ship, escorted by four Bulgarian naval vessels. During the first attack it hit the submarine with two of the six bombs and when the submarine tried to hide in the depths, the *Vrana* dropped the remaining four missiles. According to Bulgarian authors it destroyed thusly a Soviet submarine, the M-58."

The Color and Markings section brought me a lot of clarification and not a few surprises:

"The standard colour scheme of the Czechoslovak Air Force combat aircraft was the combination of *khaki* and the so-called *aluminum-bronze*, i.e. matt silver." (I had guessed matt silver, but here is the verification.

As to those colorful "Border Guard" aircraft: "The Š-328 and Š-528 of the *Četnické letecké hlídky* were sprayed in the grey-green *četnická oliva* (gendarmier olive) overall, with the engine cowling, wing and empennage leading edges in scarlet red."

The physical properties of the book could not be better. The high-quality glossy paper allows for the excellent reproduction of the many photos. The sturdy cover and strong binding will withstand many long hours of hard use.

Content statistics: "Luftwaffe Service" (4 pages, 9 photos); "Slovak Small Cow" (22 pages, 33 photos); "Their Best Hour" (15 pages, 35 photos); "Over the Balkans and Black Sea" (4 pages, 5 photos); "Camouflage and Markings" (16 pages, 39 photos); "Technical Description" (8 pages, 11 photos).

In lieu of appendices, there are:

A 14 page table listing (in small print) individual aircraft from the Š-28 to the Š-528.

Six pages of color profiles: Luftwaffe (4), Slovakia (one with the Slovak "double-armed-cross in-circle" insignia and black German *Balkankeuz* crosses in 6 positions, three with the later Slovak blue *Balkankeuz* with red disc in the center, Slovak National Uprising (one with the Insurgent insignia (the Czechoslovak insignia "modified by the addition of the black outline of three mountains and a white Greek cross sprouting from the central one into the blue segment of the cockade" and one with Soviet stars), Bulgaria (one with the complicated red Maltese cross and one with the black St. Andrew cross insignia).

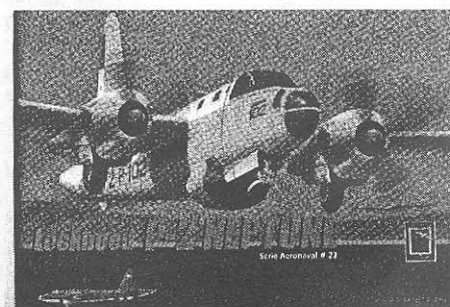
Two pages of 4-view color drawings (port, starboard, top, & bottom): one in Insurgent markings and one Bulgarian aircraft with black St. Andrew cross insignia. (Did you know that after the Bulgarians changed to the Allied side, the yellow "theater" markings were changed to white?)

Three pages of multi-view 1/72-scale drawing: 2 pages for the Š-328, and one page for the Š-528.

Volume 2 of the Š-328 story is a must for anyone interested in Czechoslovak aircraft and their use during WWII. The modeler with a couple of KP

kits of the Š-328 stored away in the loft will find much to refresh a jaded appetite.

Review copy provided by Jiří Jakab of Jakab Publishing.



**Lockheed L-188 Electra**, by Jorge F. Núñez Padin. Serie Aeronaval #21. (2006).

This is the 21<sup>st</sup> in the series on Argentine naval aircraft from our good friend Jorge in Argentina. It differs slightly from the previous volumes in this series in that it is in a landscape format [275 mm by 195 mm (11 inch by 7.75 inch)]. Otherwise, it is to the same high-quality that we've come to expect from Jorge: an informative text, both historical and technical (in Spanish), excellently-reproduced photos, and attractive color drawings. I suspect the landscape format was chosen to allow for the best display of the color profiles; the Electra has a rather long fuselage. (The four-turboprop Lockheed L-188A/C Electra is not to be confused with the earlier Lockheed twin-engine Electra.)

The L-188 had a rather inauspicious start when two fatal crashes and the advent of the turbojet hindered its airline acceptance. However, after modification it became a reliable workhorse in civil and military service. It was also the basis for the ubiquitous P-3 Orion.

The Argentine Navy (Armada Argentina) received 9 used Electra beginning in 1973. The last was not retired until 2002 with 35,581 hours on its airframe. In Argentine service they served in the roles of transport, reconnaissance, and electronic surveillance.

This monograph consists of 36 pages on heavy glossy paper. There are 7 color profiles, 17 color photos and 25 b&w photos of the aircraft, 21 b&w photos of interior and exterior details, and 5 side-view drawings of Argentine Electra in various configurations (Explorador y Tanque, Explorador, ELINT/SIGINT, Transporte Puerta Delanters, and Transporte Puerta Trasera).

The text consists of four chapters: (1) Historia: 1<sup>o</sup> Escuadrilla Aeronaval de Sostén Logístico Móvil; Escuadrilla Aeronaval de Exploración [7 pages]; (2) Operaciones en Malvinas [2 pages]; (3) Historias Individuales [3 pages]; (4) Técnica [10 pages including detail photos of the exterior and interior of the ELINT/SIGINT version].

For the modeler lucky enough to have a kit of the Electra the following comments should be of interest:

If you want to build an Electra as it appeared during the Malvinas Campaign (Falklands War), photos of 5-T-1 at Puerto Argentino (Fort Stanley) show the color scheme was a normal airline-style livery with white fuselage (top and bottom) and tail surfaces with a wide blue band from nose to tail. The engine nacelles were bare metal – probably the wings were also bare metal, but there are no plan views of this scheme in the book. The black naval anchor insignia was carried on the undersurfaces of the wing and probably the top too. Also black were



the titles "Armada Argentina" above the blue band and about midway on the fuselage, and the serial 5-T-1 on the vertical fin. The rudder and elevators carried the blue/white/blue national marking with the yellow sun on the white of the rudder.

Post-war Electras were finished with dark grey above and light grey below. Several shades of dark grey seem to have been used at various times.

For the modeler who likes to add bits and pieces to his masterpiece, the Explorador version has a large radome under the forward fuselage. But, the *piece d' resistance* would be the ELINT/SIGINT version with antennae everywhere including a huge bulge on the starboard rear fuselage with "antenas receptoras en diferentes bandas" There are many close up photos of these antenna in the book.

Serie Aeronaval #21 on the Lockheed L-188 Electra is highly recommended all lovers of beautiful aircraft presented in a beautifully-produced book. By the time you read this, copies should be available from the SAFCH Sales Service.

Review copy provided by the author.

**Lockheed P-2 Neptune**, by Jorge F. Núñez Padin. Serie Aeronaval #23. With English summary. (2007).

This is the 23<sup>rd</sup> in Jorge's series on Argentine naval aircraft. The landscape format is the same as for the Electra monograph reviewed above, and it is to the same high-quality that we've come to expect from Jorge. The content follows the usual Serie Aeronautica formula: an informative text, both historical and technical, excellently-reproduced photos, and attractive color drawings. For the first time, Jorge includes an English summary; this 2-page summary is both informative and written in perfect English.

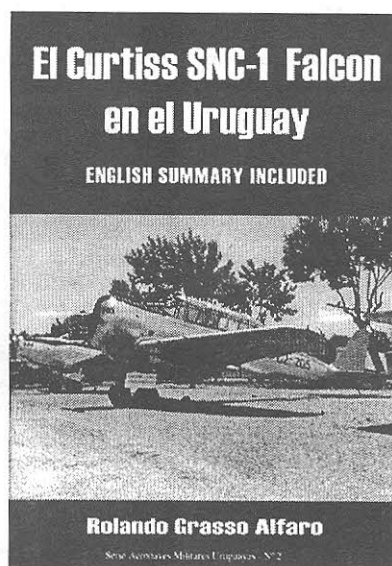
The 15 Argentine Neptunes were of a variety of types [P2V-5 (P-2E) from the RAF and P2V-5FS (SP-2E) & P2V-7S (SP-2H) from the USN]. In Argentine service the wore a variety of color schemes including overall sea blue, sea blue with white upper fuselage, light grey with white upper fuselage, and a blue/green upper surface camouflage with light grey lower surfaces. This latter color scheme was used during the Chilean incident and during the Malvinas conflict.

On 12 May 1982, SP-2H 0708/2-P-112 was on a reconnaissance mission when "the radar operator made contact with British surface vessels some 85 miles south of Port Stanley. The aircraft Capitan de Corbeta Proni received orders to stay in the area, monitoring the movements of these vessels, while at the same time the Naval Aviation CiC Admiral Garcia Boll ordered the long awaited strike of Super Etendards. In the meantime the veteran SP-2H was forced to fly at 500 ft following a particular flight path, since the ECM operator received signals from type 965 radar, giving the crew an indication that its presence was known to the British. The radar operation did his best efforts to operate the troubled AN/APS-20 radar and successfully managed to get updated positions on the Royal Navy's ships. The last exploration was made around 1030 hours and the new position data was transmitted to the incoming Super Etendards, at that time 115 nautical miles from their target the HMS Sheffield. Finally after an eight hour mission, the SP-2H landed at Rio Grande with its radar inoperative."

This 36-page monograph includes 26 b&w photos, 18 color photos, and 7 color profiles (one a 2-two-page spread).

Considering the high quality of the research, the numerous well-reproduced photos (especially

the color photos), and the colorful profiles, this is a book that belongs in the library of every enthusiast of the small air forces. Copies are available from the SAFCH Sales Service for \$12.00 in the US and \$15.00 else where.



**El Curtiss SNC-1 Falcon en el Uruguay**, by Rolando Grasso Alfaro, ISBN 978-9974-96-237-8. 40 pages in all; there is an eight page English summary. Available via member Gary Kuhn (SAFCH #257) (gkkuhn@earthlink.net) at \$20.00 each, postpaid to U.S. and Canada, or twenty euros to Europe etc. Also available from the author at rgrasso@adinet.com.uy or Aerolibros@gmail.com.

Rolando Grasso (SAFCH #384) has completed a second booklet in the Uruguayan Military Aircraft series. The first dealt with the T-6/SNJ (SAFO #114, October 2005); copies are available, as above. The Curtiss Falcon was a predecessor of the North American Texan. Nine aircraft (serials 200-208) served the Aeronautica Militar (the predecessor of the Fuerza Aerea Uruguaya - not the navy.) They arrived in the latter months of 1942 and remained in service through the year 1951. They had no combat record.

The well illustrated forty page booklet is similar to the series published in Argentina by Jorge Nunez Padin, and of slightly larger dimensions. Grasso is a diligent researcher, and has extracted operational details from official records. Other Uruguayan research is incorporated: an article on the SNC-1 by Nelson Acosta; photographs via Fernando Diaz; details from the books of official air force historian Juan Maruri; and data held in the Museo Aeronautica, facilitated by regular SAFO writer, Eduardo Luzardo (SAFCH #1383). In the center facing pages is a set of 1/72 color profiles by the skilled three-view specialist Peoro. Cerovaz, with his son Fernando (SAFCH #1613). This booklet is definitive for this rare aircraft that flew for nearly a decade in Uruguay.

There is one survivor, in critical condition but recovering. Serial 205 was preserved for the aeronautical museum. As G2-205, it appears in the color photos on the front and back covers. There was a tragic fire inside the museum in December 1997, with several rare aircraft destroyed. The SNC-1 was seriously damaged, but is now being restored to static display condition. To appreciate the work that volunteers are doing to preserve and restore aircraft in Uruguay, go to laahs.com and click on the messages of Wilman Fuentes, to see

photos.

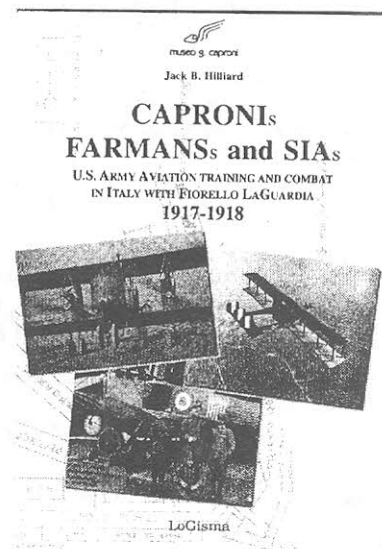
Gary Kuhn (SAFCH #257), 23-D Crusader Avenue, West St. Paul, Minnesota 55118, USA.

Captions for photos on page 7: All photos via the author.

1 & 2. Aeronautica Militar Curtiss SNC-1 circa 1942-1951. (Photo probably FAU)

3 & 4. Uruguayan SNC-1 after the museum fire of 1997. (Photo by the author.)

[Ed: For a short article on the Uruguayan SNC with one photo and a 3-view drawing, see SAFO Vol. 26, No 2, July 2002.]



Capronis, Farmans and SIAs: US Army Aviation Training and Combat in Italy with Fiorello La Guardia 1917-1918, Jack B. Hilliard. 616 pages, softbound 170 mm by 240 mm (6.75 inch by 9.5 inch). ISBN 88-87621-60-8. (2006). Published by LoGisma editore. Website: logisma.it. Published in cooperation with Museo Aeronautica "Gianni Caproni", Via Lidorno 3, 38100 Trento, Italy. Website: museocaproni.it.

"When the United States entered the First World War its military aviation was unprepared for the immediate requirements for pilots. This book is about one of the American cadet detachments that were sent to Europe for flight training and combat against the Central Powers. The diaries and letters from Italy of these fresh graduates from the best of the nation's universities tell us about a mostly unknown part of that war's history." This description on the back cover of this softbound book accurately describes its content. While there is nothing directly applicable to the small air forces, this book should be of great interest to fans for WWI aviation.

Some idea of the organization of the book can be gained from the chapter headings: (1) The Voyage Across; (2) England and France; (3) Life at Campo Sud; (4) - (16) Monthly report from October 1917 to October 1918.; (17) - (22) Monthly report of Combat Detachment June 1918 to November 1918; (23) Epilogue. Within each chapter, the arrangement is by date followed by the notations from individual airmen. When something important is happening, the author provides background information. For example, on Tuesday, 30 July 1918 he adds: "On





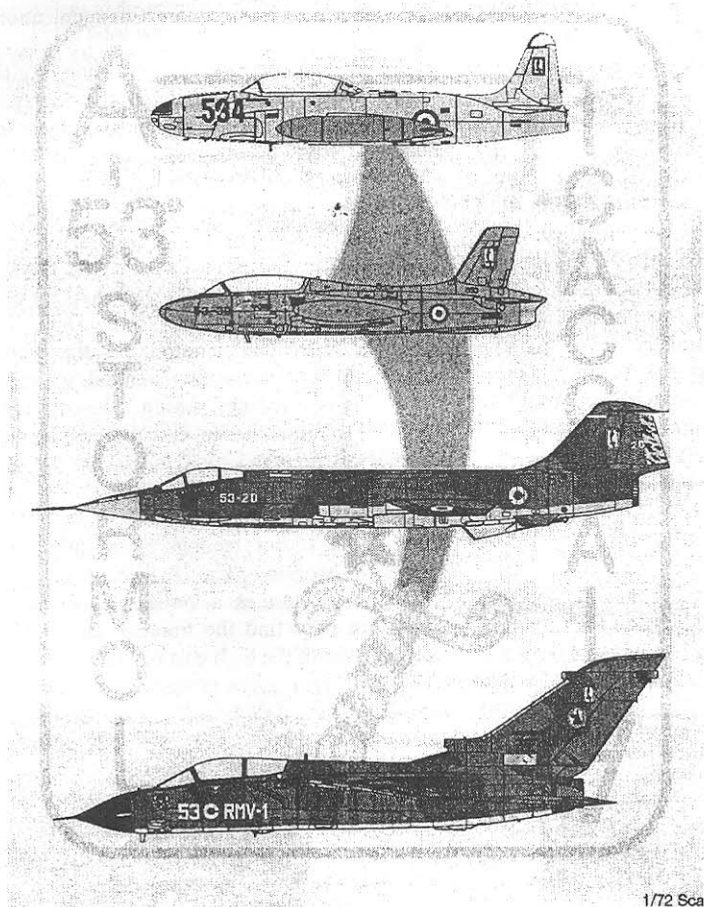
SWAD 7200

**Small World Accessories**  
by Mondoridotto

In cooperation with

**Gruppo "Asso di Spade"**  
Varese

**Italian Air Force 53<sup>rd</sup> Stormo "G. Chiarini" Cameri - Novara**  
unit insignia and codes



1/72 Scale

**Italian Air Force 53<sup>rd</sup> Stormo; F-104G/S, Tornado, T-33, MB.326.**  
1/72-scale decals. SWAD72001. Mondoridotto, via Arno 25, 56011 Calci - PI, Italy. Website: [www.mondoridotto.it](http://www.mondoridotto.it). E-mail: [Mario@mondoridotto.it](mailto:Mario@mondoridotto.it).

Mario Bartoli (SAFCH #729) has started a business making resin parts and decals under the "Small World Accessories (SWAR and SWAD) label. Resin sets include 1/48-scale fuel tank for WWI Albatros fighters, Martin Baker Mk.4AW seats for MB.326, and a G.91R set (cockpit, flaps wheels and wheel bays, and PAN nose). The decal sets are 1/72- and 1/48-scale sets for Italian Air Force 53<sup>rd</sup> Stormo; F-104G/S, Tornado, T-33, MB.326.

Aircraft covered on the decals are;

**Lockheed T-33A Shooting Star:** Three aircraft in service from 53<sup>rd</sup> Stormo recommissioning on April 1 st, 1967 until December 11 th, 1979, when the last one was grounded due to lack of spares. Individual serials and codes in chronological order: MM51-17489 (ex USAF 51-17489) coded 53-27, destroyed in an accident on March 20th, 1973; MM51-17534 (ex USAF 51-17534) coded 53-28 at first, then 534 (now at Cameri airbase museum); MM51-17536 (ex USAF 51-17536) coded 53-26. Unusually, during its later service 53-28 were the last three numbers from its serial, 534, as its code USAF-style.

**Aermacchi MB-326E:** Three aircraft in service from May 1982 until December 27th, 1990, when the whole MB326 fleet was grounded due to structural problems. They were ultimately struck off charge on June 13th, 1993. Individual serials and codes in chronological order: MM54209 coded 53-32; MM54234 coded 53-30 (the MM serial number is not certain); MM54274 coded 53-31. An MB-326, serial MM54218 was coded 53-31 toward the end of the '80s and a photo of this aircraft was included in the Superbase 4 - "Deci" book by Chuck Stewart, published by Osprey on page 16.

**Lockheed/Aeritalia F-104S/S-ASA:** The 21st Gruppo of the 53<sup>rd</sup> Stormoflew 103 F-104s from 1964 to 1997, or 29,86% of the 345 F-1 O4s delivered to the Italian Air Force. This number is broken down as follows: 25 F-1 O4G, 61 F-104S (5 of them converted to S-ASA) and 17 F-104S-ASA. A total of 15 F-1 O4s was destroyed, broken down as follows: 5 F-1 O4G, 9 F-104S and one F-104S-ASA. The shortest service life was two years (F-1 O4G MM6516, F-1 O4S MM6714, F-1 O4S MM6782, F-1 O4S-ASA MM6826). The longest service life was 19 years (F-104S MM6881 from 1971 until 1990).

**PANAVIA Tornado IDS 1st RMV (Reparto Manutenzione Velivoli or Aircraft Maintenance Unit):** The 1 st RMV was born in 1977, when the Air Force Chief of Staff decided to open an unit to take care of maintenance, logistics and training for the Tornado fleet. It was hoped to obtain a better operational readiness and a better self-reliance. The Unit was formally commissioned on November 1st, 1980 with the name of 1 st Centro Manutenzione Principale (Main Maintenance Center), after a preparatory phase to set up the structures and train the personnel, who was already working in the 3rd Gruppo Efficienza Velivoli (Line Maintenance Group) on the Cameri air base.

The decal sheet, 140 mm by 220 mm (5.5 inch by 8.5 inch), contains all the national insignia, squadron insignia, code numbers, serial numbers, warning signs, and stenciling to do one each of the aircraft types listed. (In addition, to use up some spare space, there are unit insignia for 653<sup>rd</sup> Squadron Piaggio P-180.) The printing of the decals is so shape that even the tiny "MM" numbers are readable. The colors are vivid and the registration is spot on (the green center of the national insignia is printed separately to pass on any registration problems to the modeler). The 8-page instruction sheet consists of multi-view color drawings of all aircraft along with color photos of some of the markings.

This decal sheet is recommended to all modelers wishing to add a reasonable representation of modern Italian aircraft to their collection. (The overall orange MB.326 is particularly eye catching.)

The review sheet was provided by Mario Bartoli and is available from the SAFCH Sales Service for \$10.00 US or \$12.00 rest of world with all proceeds going to the SAFCH Sponsorship Fund.

**Italian Air Force 53<sup>rd</sup> Stormo; F-104G/S, Tornado, T-33, MB.326.**  
1/48-scale decals. SWAD48001. Mondoridotto, via Arno 25, 56011 Calci - PI, Italy. Website: [www.mondoridotto.it](http://www.mondoridotto.it). E-mail: [Mario@mondoridotto.it](mailto:Mario@mondoridotto.it).

Identical to the 1/72-scale set except the 1/48-scale set contains two decal sheets. The review sheet was provided by Mario Bartoli and is available from the SAFCH Sales Service for \$13.00 US or \$16.00 rest of world. with all proceeds going to the SAFCH Sponsorship Fund.



## Bye-bye-Mirage III

Die Mirages der Schweizer Luftwaffe  
The Mirages in Swiss Air Force service



Diashow/Slideshow: 100 Photos, 3 Videos: Mirage IIIBS/RS

AERODOC  
CH-9000 St. Gallen



**Bye-bye Mirage III:** The Mirages in Swiss Air Force service. DVD. Aerodoc, Folchartstrasse 19, CH-9000 St. Gallen, Switzerland. 50 minutes. aerodoc@swissonline.ch. Price to European countries: 50 € or 34 £. All other countries: 55 € or 70 US\$.

In SAFO #120 (April 2007), I reviewed the Aerodoc CD of the Swiss Mirage III. At

that time, I promised a review of their DVD at a later time. The promised review has been delayed by my inability to play the DVD on my Panasonic RV-32 DVD player. However, I have had no problem playing it on my brother-in-law's Sony and my daughter's new Adiovox portable DVD player. No one has been able to explain why my Panasonic will not play this Swiss DVD.

Stefan Wunderlin of Aerodoc describes the operating instructions thus: "This DVD can be read on a suitable DVD player or by a PC with a DVD disk drive. If using a PC, with DVD player software installed and AUTOSTART activated, the DVD should start automatically. If AUTOSTART is deactivated or if using a Macintosh, the DVD has to be started manually following the instructions for the player software. Colours, and quality in general, can differ from the original if using an uncalibrated monitor."

The content of this DVD is:

Track 1: Mirage III Slideshow: 100 historic photographs of all versions and technical modifications. (18 min)

Mirage III Video 1:

Track 2: Mirage introduction to the Swiss Air Force in 1967. Mirage pilot training in 1967, A fascinating documentary (black and white). Original Video (1967) by permission of Swiss Television DRS. (20 min)

Mirage III Video 2:

Track 3: Mirage IIIRS in action . Spectacular Mirage IIIRS low level reconnaissance missions. Original video (from "Fusion" 1999) by kind permission of the Swiss Air Force, the Swiss Army Film Service and the Air Force Communications. (2 min)

Track 4: Mirage IIIS in action. Agility and power - technology and the beauty of flight over a stunning alpine landscape. Original video ("Mirage IIIS derniers sillages" 1999) by kind permission of the Swiss Air Force, the Swiss Army Film Service and the Air Force Communications. (10 min)

For the 100 photos in the first track, a brochure included with the DVD lists for each photos the Registration, Place, Date, and Photographer. The narration for the second track is entirely in Swiss. The final two tracks show Swiss Mirages during take-off, high- and low-altitude maneuvers, and landing. The scenery is breathtaking - and so are the low-level flying sequences.

Because of the lack of English narration, this DVD is not recommended unless you have a working knowledge of German. However, if you're a certifiable Mirage III nut, you may find the training and in-flight footage worth the high cost of this DVD.

## -web-web-web- web-web-web- web-web-web- web-web-web- web-web-web- web-web-web-

"An excellent site on Uruguayan military aviation is: [www.pilotoviejo.com](http://www.pilotoviejo.com). Click on the image of the aircraft of interest and then, on the home page, click on the icon in the upper left corner to bring up the text."

Eduardo Luzardo (SAFCH #1383)

"I do not know if this is the kind of info which can interest the readers of SAFO, but here is a link to a turkish air force photographic inventory from the creation until nowadays.

<http://216.239.59.104/search?q=cache:wzWd9EHe3AkJ:www.tayyareci.com/digerucaklar/turkiye/index.asp+T%C3%BCrk+Hava+Kuvvetleri&hl=tr&ct=clnk&cd=2&gl=tr>."

Jean-Yves Goffi (SAFCH #427)

"I like Jorge Nunez's series on Argentine aircraft and I just finished entering the ones that I own onto an the online listing of my aviation library. This site might interest other SAFO readers. Here's a link to it: <http://www.librarything.com/catalog/WaltNoise> .

"I confess that I'm not a modeler, but an amateur historian of military aviation. I love the precise detail that modelers strive for in their books; so many authors can't tell a MiG from a Sukhoi. The research in SAFO is a lot more impressive than so much of what's published."

Walt Noiseau (SAFCH #1574)

"Back from my travel in Ireland, I finished my new website: <http://www.hubertcance.com>. Maybe it would be of some interest to our readers. This one compiles everything that was presented on my earlier sites and will replace it sooner or later. It include my fine art as well as my illustrations, the prints of them, and my plan drawings, and my catalogs (with an exception for those that are so lengthy that they overfill the space limit. I'll keep these available as e-mail).

"The many photo galleries including more than 400 pictures will allow you to have a generic idea of my productions or to focus on your favorite subjects.

"If you are interested prints of my plan drawings or of my color illustrations you can enlarge the stamp-sized pictures to nearly postcard size, an option that many people ask me to include in my precedent websites.

"Until now, the links are limited to those of my other websites or virtual galleries, but I plan to extend them to those of my colleagues illustrators, painters or photographers."

Hubert Cance (SAFCH #809)

"Just a note to give you the address of a site on Peruvian Air Force Aircraft. <http://www.masterofthesky.com/aeronaves/afa1.html>."

Jean-Yves Goffi (SAFCH #427)

"This web site has the history of the air wars over the Congo from 1960 to 67. Quite interesting and lots of color profiles of a/c. <http://worldatwar.net/chandelle/v2/v2n3/congo.html>"

Joe Turner (SAFCH #7)

[Ed: In response to the article on the Uruguayan Grumman F6E Hellcats that appeared in SAFO #94, George Knott (SAFCH #1697) asked for more information. I passed his letter on to Dan Hagedorn and Eduardo Luzardo for their comments. Here are their replies. Note that some of these facts are corrections to the original article.]

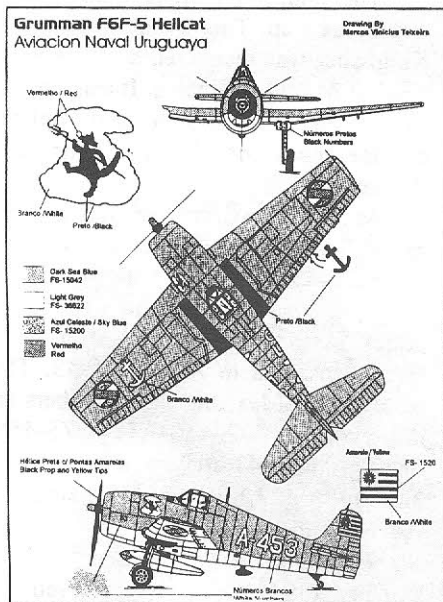
1) "What was Cobell Industries who sold the F6F to Uruguay?" Cobell Industries, Inc., (dba Cobell Supply Corp., Meacham Field, PO Box 966, Fort Worth, TX) as of June 1952

2) "Who ferried the Hellcats to Uruguay?" The aircraft were ferried to Uruguay by Uruguayan Navy officers, not U.S. pilots as stated in the original article. They were: A-450 - C/C Omar Aguirre; A-401 - A/N Hugo Martini; A-402 - G/M Ricardo Chelle; A-403 - G/M Salvador Bravo; A-404 - A/N Washington Aguirre; A-405 - G/M Jose Larraide; A-406 - C/C Carlos Mari; A-452 - G/M Luis Rivero; A-453 - A/N Claudinet Bernet; A-455 - T/N Enrique Falco (Keep in mind that A-451 and A-454 were lost to accidents prior to the delivery flight.)

3) "The Hellcats left from Meacham Field. Where was it?" Meacham Field was a civilian air field serving Fort Worth at the time.

4) "Are there any other publications on the Uruguayan Hellcats?" The Uruguayan publication Gaceta de la Aviacion No.19 for November 1994 has a good article on the aircraft, but is very rare and hard to locate. It is the only document that I know of that has been published totally dedicated to these aircraft."

Dan Hagedorn (SAFCH #394), 13125 Pennervue Lane, Fairfax, VA 22033, USA. E-mail: danielhagedorn@cox.net



5) "What was the camouflage scheme of the Uruguayan Hellcats?" The Uruguayan Hellcats were repainted in the US before delivery. The upper surfaces remained in Glossy Sea Blue, but the undersurfaces were painted Light Gull Gray.

6) "What unit used the Hellcats?" The Uruguayan Hellcats served with the Fighter Group (Escuadrón de Caza) of the Naval Aviation (Aviación Naval).

7) "Was the emblem on the aircraft a unit insignia?" The insignia consisted of Sylvester the Cat (of the Loony Tunes fame) in silhouette holding a red trident. This was an unofficial emblem and was carried on all Uruguayan Hellcats, and only on Hellcats. The flight personnel used this emblem as a patch on their flight uniforms. An official emblem did not exist."

For more information about these Hellcats and other Uruguayan military aircraft, go to www.pilotoviejo.com and go to the article (in Spanish) by Nelson Acosta:

Eduardo Luzardo (SAFCH #1383), Picardia M.267 S.37, 91001 Barros Blancos, R.8 Km.22,500, Uruguay. E-mail: charual56@hotmail.com

[Ed: Jay Miller (SAFCH #732) recently visited the Norwegian Air Force Museum. On his return to the US, he received the following from Leif Einar Feiring, a member of the Museum's Board.]

"As for the N3PB, I can tell you that my father-in-law, Kristian Østby, was the man who signed the contract for the planes with Northrop on behalf of the Norwegian government back in 1939. He also designed the floats for that plane and was the first one ever to make a loop with the N3PB! During WWII he served as Norwegian Air and Navy Attaché in Washington.

"In 1940, my father was in charge of the Norwegian Army Air Force in northern Norway. He and his men were fighting the Germans with their Fokker V's! In our collection at Gardemoen we have a Ju 52 which was one of 11 German planes that landed on ice, and as a consequence were sent to the bottom by my father and his Fokkers. My father was shot down, injured, taken prisoner, escaped, rejoined his unit and went on fighting. When the fighting was over, he joined the underground, was taken prisoner and spent two years in different POW camps in Germany and Poland.

After the war, both of these two gentlemen went back to service in the Royal Norwegian Air Force and retired as Colonels after having been flying since 1919."

[Ed: The following e-mail was received from Denys Voaden. It's a reply to a friend's e-mail on the subject: of the Inner Mongolian Autonomous Government.]

"I was happy to learn the identity of Prince De's [Demchugdongrub] aeroplane as a Manko Type 1. By the way, he was second-in-command to Prince Yondonwangchug until the latter's death in 1938. I knew there was an aeroplane, but assumed it to be a VIP transport (It was used mainly for administrative flights, I think) rather than an "air arm". I would much appreciate any further documentation ---did it have Japanese or Manchukuoan military or civilian markings, or something else? It was presented by the Kwantung Army and was said to be a "small 6-seat airplane". Prince De named it *Keimori* [Heavenly Horse]. It at first had a Japanese pilot, replaced after three or four years by a young Mongol pilot. Prince De died in Hohhot in 1966 after many years of misfortune."

"I sent the comment to Lennart Anderssen and hope he can fill me in a little. I wanted to follow this up, as years ago I knew an assistant to Prince De but never asked about this. His widow is in the US but not very accessible. The family of the Mongol pilot may be in Taiwan -- I have lots of

ideas I want to followup but never enough time or energy!"

Denys Voaden (SAFCH #1483), 8616 Edmonston Ave., College Park, MD 20740, USA. E-mail: djvokey@yahoo.com

[Ed: Denys Voaden sent this note to Alex Crawford in response to Alex's article in SAFO #121 on the Latvian Hawker Hinds.]

"I am not an expert here, but I looked in a couple of places. My only pre-war Janes AWA is 1938 and the "Service Aviation" section for Latvia is pretty sparse and names no types (unusual). The Hawker section says that Hinds are among export to Latvia - no other data. K. Irbitis in his book, "Of Struggle and Flight" (Stittsville, Ontario, 1986; on page 24 says that four Hawker Hinds were imported; not three as you reported. On page 32 of the same book, there is a photo of No. 178 captioned "one of four".

"As for their fate: There seems to have been no armed resistance in 1940 when the USSR occupied the Baltic States. The Hinds, if at all airworthy MIGHT just have been adopted by the VVS for artillery correction, but I am just guessing. But the Russians did grab Lithuanian aircraft for use, and in contrast to many air forces often mixed types in units, rather than uniform equipment. I get the feeling this was often due to desperation in trying to make up numbers, but it persisted till late in the war.

"On the other hand, if the Hinds just languished in Latvia they were probably destroyed by Luftwaffe bombing or later hauled out and dumped."

Denys Voaden (SAFCH #1483), 8616 Edmonston Ave., College Park, MD 20740, USA. E-mail: djvokey@yahoo.com

"Approximately 14 years ago, Koloman Mayrhofer, a wood-sculptor living in Hallstatt and Vienna, started the seeming impossible: project of making a copy of an Albatros D.III (Oef) fighter biplane of World War 1. The D.III (Oef) was a license-built version of the German Albatros D.III, that in 1917/18 was built in three series at the *Osterreichische Flugzeug Werke AG (Oeffag)* in Wiener Neustadt, Austria-Hungary

"The project began with innumerable hours of search in domestic and foreign museums and archives for documents and plans. Altogether, he found almost a third of the needed original plans. Based on these cyanotypes, he drew the remaining plans - particularly drawings of details. In the following years, Koloman came in contact with people who showed an interest in his project. Included were laymen, aircraft collectors, and editors of aviation history magazines. In combination with German airline pilot and aircraft collector, Eberhard Fritsch, the idea was born to build a second Albatros D.III (Oef) that would be flyable.

"A few years ago, Koloman Mayrhofer managed what he never had dared to dream: he found two original AustroDaimler 6-cylinders in-line engines of the series 23.000 from 1918. He received both engines on long-time loan.

"On Saturday, 28 April 2007, in the city of Hallstatt, his first Albatros D.III (Oef), marked as the prototype 253.01, was presented to the public.

"On evening of 10 May 2007 in the *Stadtmuseum* in Wiener Neustadt, a special



exhibition opened titled, "Albatros D.III 253.01 Oeffag - a legendary aircraft come home to Wiener Neustadt". This special exhibition lasted from 11 May to 2 September 2007.

"Remarkable is the fact that Koloman's biplane is the only existing Albatros D.III in the world."

Rudolf Höfling (SAFCH #1590), Franz Koci-Strasse 4/12/23, 1100 Vienna, Austria.

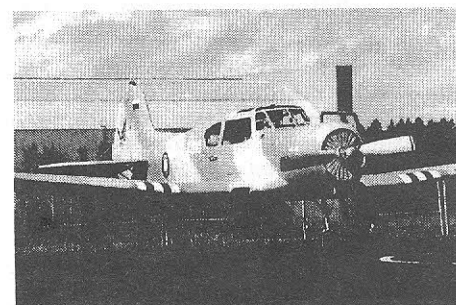
[Ed: See Rudolf's photos of this Koloman's Albatros on page 38.]

"John Cochrane (SAFCH #905) forwarded to me these photos of Russian Yak-18s, taken by Martin Bach (SAFCH #1275). The insignia appear to be a throwback to the Czarist, pre-communist, markings! I translated the Cyrillic text, which is "FLARF" in English. This stands for the Federation

of Amateur Aviators in the Russian Federation, which I assume is a paramilitary organization rather like their DOSAAF. I have seen non-military markings on Belarus DOSAAF aircraft, such as An-2s. Belarus military aircraft still use the Russian star, whereas their DOSAAF aircraft are marked with the Belarus flag. Not sure if Russian FLARF aircraft use their own non-military markings, so I'm not certain if the markings on the Yak-18s are official, but they could very well be. I've been waiting for the Russians to replace the stars for what has it been about 16 years. Maybe they've finally done it! Who knows- maybe Belarus will dump their stars if the Russians have done so!"

Greg Kozak (SAFCH #1599). 46590 Broadspire Terrace, Sterling, VA 20165, USA. E-mail: gkozak@starpower.net

[Ed: See photo below and on page 71.]



## Observations and Comments on the Vought Sikorsky Kingfisher in Mexico

Santiago A. Flores

[Author's note: After reading the article by Robero Vargas (SAFO #121, July 2007) on the use of the Vought Kingfisher in Mexico, I would like to make some comments about the situation in Baja California in 1941 and about the Kingfishers that serviced in the Fuerza Aerea Mexicana and the Aviacion de la Armada de Mexico.]

Mexico had broken off diplomatic relations with Germany, Japan, and Italy after the Pearl Harbor attack. The first military arrived in Baja California shortly afterwards when the Mexican government of General Manuel Avila Camacho sent ground and aviation reinforcements to the region.

On December 15, 1941, the first 6 Corsarios Biplanes arrived at the border city of Tijuana, Baja California, under the command of Mayor P.A. Severiano Pulido Ortiz with his pilots and crews. These aircraft came from the 1/o Air Regiment that was stationed at Balbuena airfield at Mexico City.

This group was probably a mix of American-built Chance Vought O2U-2M, Mexican built Azcarate O2U-4A, and the later Vought V-99M that had the enclosed cockpit for the pilot. The press reports of the period do not give any aircraft numbers.

The second group of aircraft to arrive were 3 Corsair and 2 Consolidated Model 21-M under the command of Mayor P.A. Roberto Vega Fuentes with 4 pilots and 5 observers/gunners.

The 1/o Regiment was based at the airfield of El Cipres, outside of the Port

of Ensenada, Baja California. They sent detachments to Hamilton Ranch and had aircraft based at La Paz at the tip of the Baja California peninsula.

These aircraft were used in patrolling the water off of the peninsula for enemy submarines or any suspicious activities. Their replacements would start arriving in March of 1943 in the form of North American AT-6 and some Douglas A-24B dive bombers.

Another reinforcement was the first six Vought Sikorsky OS2U-3 Kingfishers. Based on information reported in the Mexican press, these aircraft were obtained in trade for the engines of the 21 Bellanca 28-90B Flash monoplanes that Mexico had in storage since two fatal accidents in 1939-1940. These Kingfishers were acquired as land planes and were later converted to floatplanes.

These six aircraft arrived at Balbuena airfield Mexico City on March 26, 1942, where they were greeted by the President of Mexico and General Roberto Fierro Villalobos, chief of the Mexican air force. One thing the author failed to mention was that due to the urgency of the delivery of these aircraft, the American insignia were over-painted with roundels in the green-white-red colors of the flag of Mexico. These markings are seen on photos of the aircraft taken on their arrival at Balbuena.

On April 10<sup>th</sup>, after being checked and repainted in Mexican Air Force triangular insignia and assigned the Mexican AF serial numbers 69 to 74,

they flew to the airfield of El Cipres near Ensenada, Baja California, in two flights of 3 aircraft each.

I have not seen any photos of Mexican AF Kingfishers on floats. However, when these aircraft were transferred to the Mexican navy, was reported that the navy received its sixth Kingfisher already as a floatplane. It was given the Mexican Navy number MB-06 (Marina Busqueda - Navy Search) later MV-06 (Marina Vigilancia: Navy Patrol)

The author mentioned that MV-03 was broken up. This is not correct. This Kingfisher was recovered by the USN in 1964 at Mazatlan Sinaloa. It was brought back to the USA, restored, and displayed on the deck of the battleship *USS Alabama*.

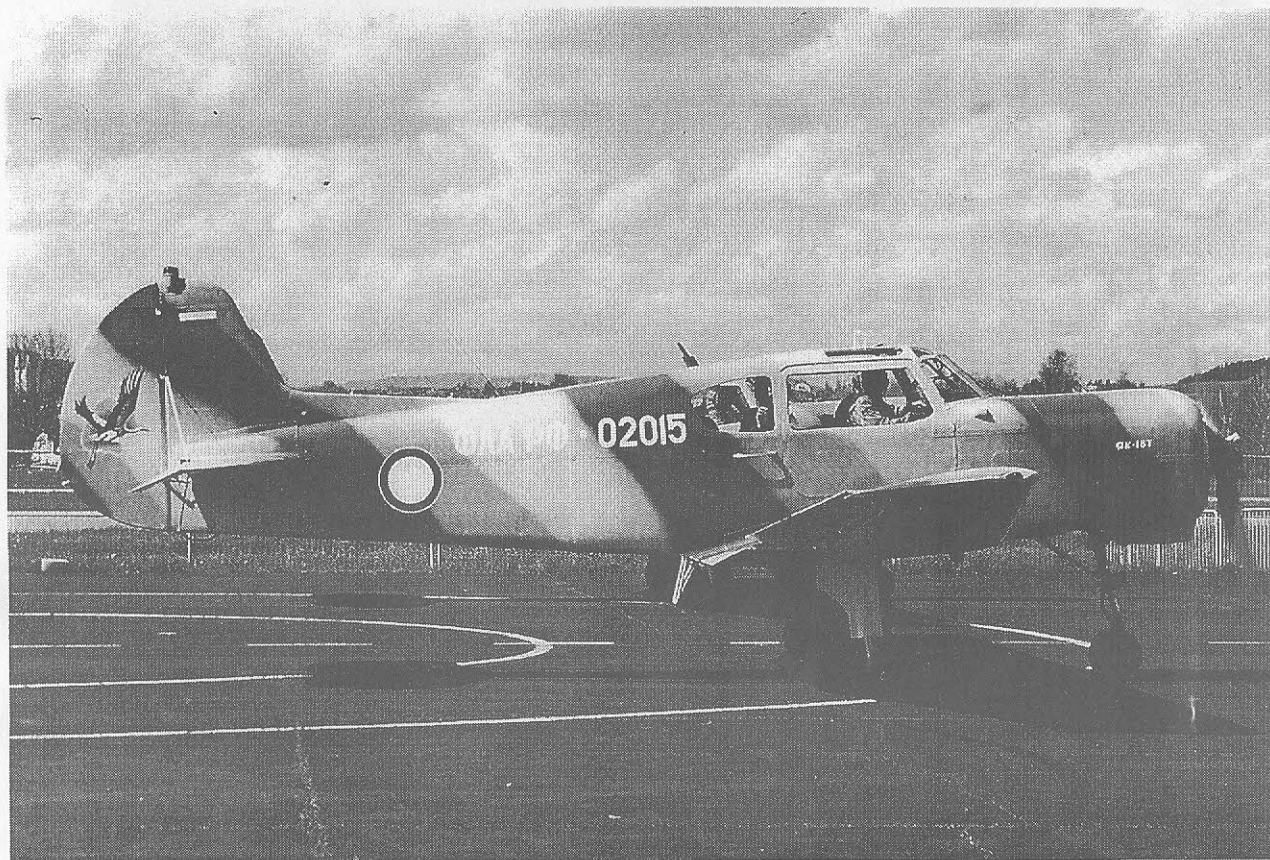
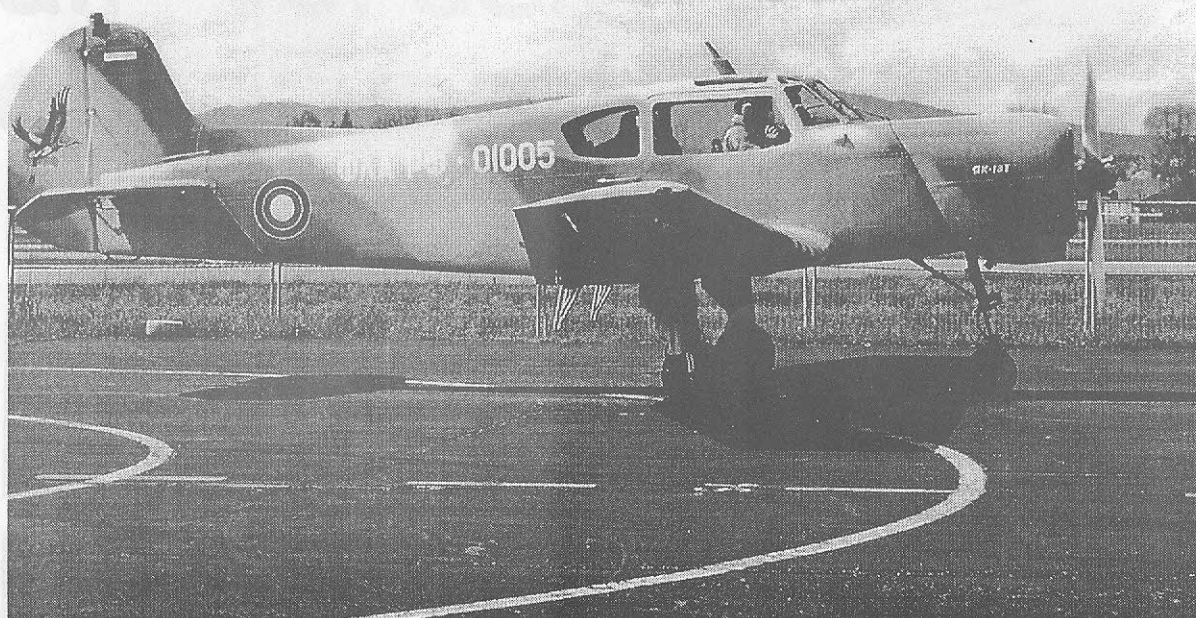
MV-04 was destroyed in a accident as a floatplane the port of Veracruz around 1945.

As for the second group of Kingfishers; they were picked up at the NAS Pensacola in April of 1943. They received the Mexican serial numbers and designations OZS-4501 to OZS-4505. During mid 1943, they were renumbered No. 113, 129, 130 and 133 and one received the designation PS (Patrulla Sikorsky - Patrol Sikorsky).

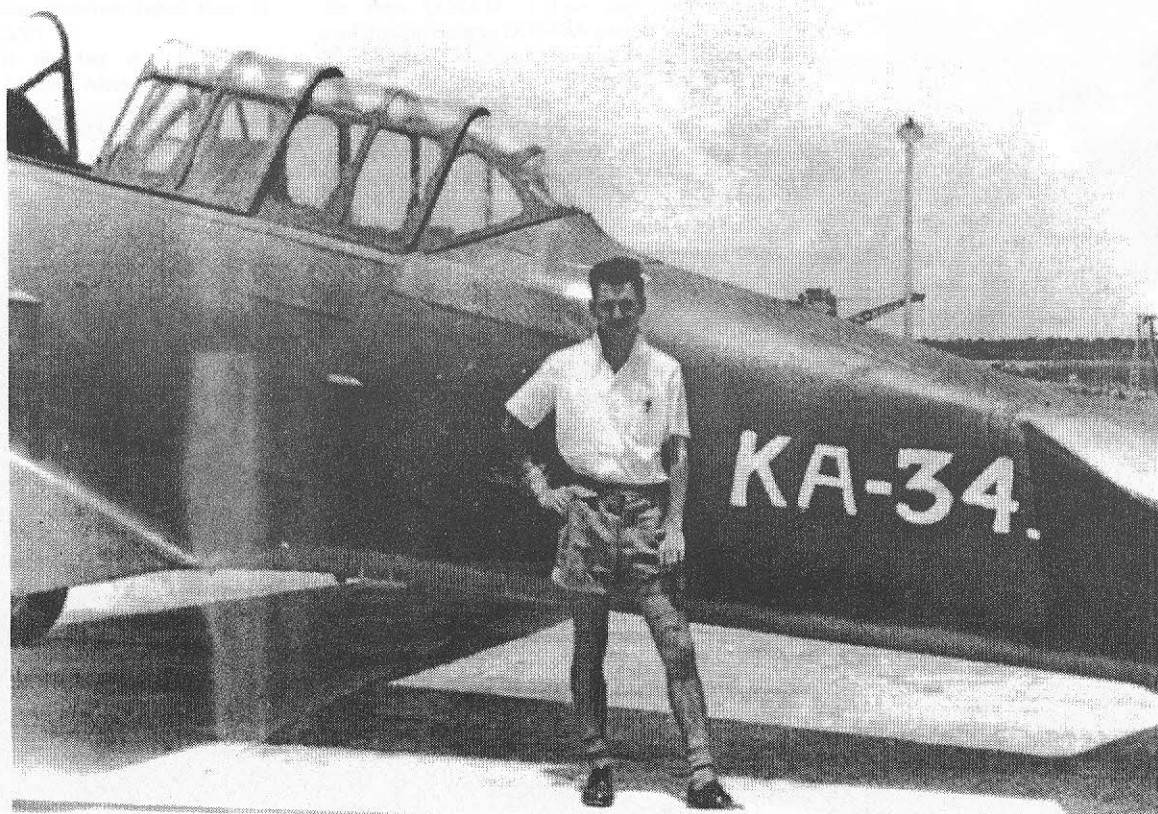
In total, Mexico received 11 Kingfishers.

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Russian Yak-18. See letter on page 70.



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Katangan T-6 Harvards. See captions on page 57



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